MICHIGAN FARMER

VOLUME XVI. DETROIT, MARCH, 1858. NUMBER 3.

R. F. JOHNSTONE, Editor.

THE MICHIGAN FARMER.

Published monthly by ROBERT F. JOHNSTONE, Detroit, Mich.
Office on Jefferson Avenue, No. 130 Agricultural Rooms,
Next door to Peninsular Bank.

Terms.

For any number of copies not exceeding four.....$1 00 each
For a club of any number from *five* to *ten*..... 80. cts "
For clubs of any number not less than *ten*..... 75 cts "

☞All letters to be addressed to ROBERT F. JOHNSTONE, Detroit Mich., (post paid.)

Advertisements.

All advertisements for the Farmer must be sent forward so as to reach us by the 20th of each month.

Rates of Advertising.

For a square of ten lines, single insertion.....$1 25
For each subsequent insertion.....1 00

For advertisements making over one square, and for periods of over three months, our terms will be liberal.

☞The attention of Breeders of Stock, Nursery men, Florists Seedsmen and Agricultural Implement Manufacturers, as well as those who wish either to buy or dispose of farms or farming lands, stocks, &c., is particularly called to the advantages which a circulation of nearly twelve thousand offers to them throughout the State of Michigan.

CONTENTS.

Farm Labor.

Last month we treated of the necessity of having a farm economically subdivided into fields of a size proportionate to that of the tract of land occupied. This month we shall call attention to the equally as important subject of LABOR ON THE FARM. The proposition or question of the amount of labor to be used for a given year, may be divided into two sections, namely: 1, the labor required for the cultivation and manufacture of the articles to be sold from the farm; and 2, the labor required for the improvement of the land. These sections are very distinct from each other, and though generally mixed up in most western farming business, the two should be kept separate and distinct: the one being the ordinary and usual expenses, and the other an investment of capital from which it is expected that the daily expenses and ordinary skill will extract a return.

A friend of ours, who owns a farm near the city of Detroit containing 160 acres, and who has found that the cleared part of it has been skinned for years, until the top soil has become almost barren, is now desirous of bringing it back not only to its native fertility, but also of rendering it more productive than it ever could have been in its original state. The question with him is, what part of the outlay for labor shall belong legitimately to the manufacture of the crops, and what shall be considered investment, so that he may know what the real income of the farm should be.

The soil of the farm is a stiff clay, and an eighty acre portion has been cleared for many years of its growth of timber, though not altogether of the stumps. Two other lots of 20 acres each are partially cleared, and can be used as pasture lands.

The owner designs to keep a dairy and to raise some young stock, that whilst paying expenses he may obtain the material necessary to bring the land into a more fertile state than it is at p[illegible] thus lay the foundation of a better income than can be now obtained from the farm. The live stock

is to consist at first of twenty milch cows of full growth, ten two year olds in calf, ten yearlings, and from eight to ten calves, and a good shorthorn bull; the working stock consists of a yoke of oxen and a pair of horses. The farm is divided into fields nearly as follows:

No. 1, 16 acres—has been in grass for two years, and will be relied upon for a crop of hay.

No. 2, 14 acres—in grass for one year, and will yield hay for two more.

No. 3, 14 acres—in pasture last year, will yield corn the present year. Partially uncleared of stumps.

No. 4, 22 acres—mostly in corn last year, with some oats, to be in oats this year, and seeded down, trusting to plaster and topdressing with manure, for the future crops.

No. 5, 20 acres,—partially uncleared, to be used for spring and summer pasture, fall-plowed, and put in corn next year.

No. 6, 20 acres—partially cleared, all standing timber to be taken off next winter, to be used for summer and fall pasture.

No. 7, 8 acres to be used for potatoes and calf pasture, being near the house, and around the barn yard.

We have selected this farm as an illustration of the subject of labor with regard to its amount and cost, because the division is simple, and is similar to the condition of many farms throughout the state; besides the labor is the least complicated, and most easily understood, and is designed to be the starting point from which a system of improvement will be carried out on the most economical scale, and as affording as much use of teams for permanent improvement as can be calculated upon in the management of a farm of that size. Beyond the work of feeding and milking, we have not made any estimates, because the dairy work does not interfere with the working of the farm or the field labor.

It will be noted that the working animals on this 160 acres consist of four head only; and that the crops for the coming year will consist of 30 acres of hay, 22 acres of oats, 14 acres of corn, 2 acres of potatoes, and the yield of the stock. The whole labor on the farm for the year from April to April, may therefofe be summed up as follows:

	Team.	*Men.*
Hay crop on 30 acres,	10 days	20 days.
24 acres of oats,	30 "	40 "
16 acres of corn,	28 "	52 "
2 acres of potatoes,	6 "	16 "
Care of live stock,		236 "
Hauling out 300 loads of manure,	40 "	60 "
Marketing,	29 "	29 "
Indidental work, such as blacksmith, drawing wood, &c.,	27 "	64 "
Total work on the farm,	190 "	537 "

This amount of labor may be likewise estimated according to the several seasons. The following estimate may not be precisely accurate, for application to every farm, to one we know it will be, however, while to many it will prove suggestive on one of the most important of farm expenses.

April and May:		
Plowing for oats, corn, potatoes, seeding, planting,	48 days	68 days.
Care of cattle and milch cows,		45 "
Marketing and incidental work,	8 "	8 "
June:		
Cultivating and hoeing of crops,	9 "	14 "
Care of live stock and milch cows,		15 "
Marketing and incidental work,	4 "	4 "
July and August;		
Securing the hay and oat crops,	14 "	27 "
Care of the live stock,		31 "
Marketing and incidental work,	8 "	12 "
September:		
Care of live stock and milch cows,		15 "
Marketing and incidental work,	3 "	3 "
October;		
Securing the corn and potato crops, including husking, &c.,	10 "	29 "
Care of the live stock and milch cows,		15 "
Marketing and incidental work,	8 "	8 "
November:		
Fall plowing for the corn and oat crop of next year,	20 "	20 "
Care of live stock and milch cows,		15 "
Marketing and incidental work,	3 "	3 "
December, January, February, and March:		
Care of live stock and fatting cattle,		120 "
Hauling out wood, manure, fixing fences, and preparing for spring work,	50 "	60 "
Marketing, and incidental work, such as thrashing, &c.	10 "	30 "
	190 "	537 "

On a farm of this kind there are 365 days in the year during which one man must work more or less to feed and milk. Taken altogether, two men must be employed steadily. But their whole time will not be used in the work incident to the raising of crops, and the live stock. The question in making an estimate of this kind is to know how much legitimately belongs to the crops, and how much can be spared for the work of permanent improvement. Allowing to one man 365 days, and to the other 300, and we ought to have 665 days work, but we believe practical men will admit that almost ten per cent. must be deducted for time lost, which would leave 605 days less 26 for the Sabbaths, so that the real working time of two men working faithfully is but 579 days. There are seasons, however, when it is absolutely necessary that extra help should be employed; such are the times of planting, hoeing, harvesting, and thrashing. In the planting season, the help of two additional men may be required for a week; in the hoeing season it will be found decidedly more economical to have a field of corn hoed in three days than to make a ten days' job, and not be as well done even then. In securing the hay and grain crops, other labor will be found necessary besides that which is permanently employed, if the crops are to be secured in the best manner. For this kind of labor we allow as follows:

For the planting months, two men for ten days,	20
For the hoeing season, three men for four days, the permanent hands being required to keep horses at work, with the plow and cultivator,	12
In the hay and harvest season, three men for 1 week,	18
Potato digging and husking, two men 1 week,	12
Total days of extra labor, to be deducted from the gross amount to show how much time of permanent men was occupied with crops,	62

It may be noted that from the whole 537 days which the crops will require, 62 will be done by temporary hands, and will cost something more than the ordinary wages, leaving the same number of days of the permanent hands to be used for improvement operations.

The whole team work indicated in the above estimates, amounts to but 190 days, of which the horses will necessarily perform 109 days, and the ox-team 81 days. The whole work done by both teams does not in reality amount to the actual working time of one in a year; for there is in a year 313 working days, from which deduct ten per cent. for lost time, and the horse team will have 173 days, and the ox-team 202 days during which other work may be attended to. Although the aggregate team work required by the crops might be done by one span of horses, yet the shortness of the seasons and the work incidental on a half cleared farm, together render the command of more than one team a necessity: it becomes evident therefore, that to have the whole benefit of the second team a third man must be kept, whose time should be charged to the investment in the land and not to the crops.

Putting these estimates into money form, and we have the actual value of the work of producing the crops to be:

475 days labor board and wages at 78 cents per day,		$370 50
62 days work harvesting, &c. at $1.25 per day,		77 50
109 days work of a horse team, estimating its keep at 40 cents per day, or actual cost,		43 40
81 days keep of an oxteam at 30 cents,		24 30
Total value of labor applied to the crops,		$515 70
Should a third man be kept, his wages would be at the rate of $10 per month,	$120 00	
His board, at 25 cents per day,	91 25	
Cost of labor to work second team,		$211 25

This latter sum, and the cost of the teams for all the time they are occupied in work not connected with the raising of crops, should be charged to the improvement account.

It is more our desire to direct attention in a practical way to the actual value of labor as applied to crops, than to specify what amount shall be used on each farm. There are no general rules which can be laid down as a guide, for the condition of each farm and the circumstances of the farmer will always govern the farmer on this important department of rural economy. But we must say there is too little consideration given to the subject; and the whole series of agricultural periodicals and other works which assume to teach something of all the *ologies* connected with agriculture, may be searched in vain for light on this subject, for the reason that none are competent to treat *laborology*, unless they have studied the science in all its bearings on the farm itself. Besides in most cases, the work done by members of the family is so mixed up with what is hired, that it is difficult to separate them. In the above estimates we have considered a days work as worth its market value only, no matter whether it was done by proprietor or by the hired man, leaving the profits on the crops to pay the cost of superintendence.

Of the cost of making butter and cheese in a dairy of twenty or thirty cows we shall treat in a future number.

Another Chapter on the Horse Stock of Michigan.

EDITOR OF THE FARMER: — Having noticed your remarks in the *Farmer*, in relation to the history of horses in Michigan, and your desire to receive notes from any quarter, pertaining to the same, induces me to give you some of the results of my own observation, confining myself, however, to a small district of country, which has hitherto been quite overlooked, or perhaps, considered not sufficiently interesting, in horses, or horsemen, to attract the attention of those, who, by special invitation, have been requested to furnish information on this subject.

Other portions of the State have been more fortunate, and the names of so many good horsemen,—trainers and breeders,—and deservedly popular horses, in other localities, may do something to gain us a reputation, when the history of Michigan's horses is read abroad.

At this time it is not proposed to discuss at length the merits or demerits of the various breeds of horses, and hence, I need not refer to those of acknowledged excellence, already noticed by writers preceding me.

As early as 1825, I became acquainted with the Indian or French ponies,—the prevailing breed in this region, at that time—and which were used, principally, for packing and landlooking, for which they were well adapted.

The first improvement on this hardy little race, (for such indeed they were, was a cross with the Lower Canada, or Montreal horses, which gave the offspring more size, retaining all the admirable, and orignal trait of compactness.

At a date not later than 1830, many superior business horses were introduced from various States, chiefly from New York. Many of the mares were bred to stallions of the cross above mentioned, which resulted in giving the offspring more height, length, and action. This experiment, as an improvement, was successful, producing a class of horses not altogether unlike many of the Morgans of the present day.

But the prosperity of the country encouraged breeders to seek still higher attainments. This resulted in the introduction of several stallions, and brood mares, some of which were noble specimens of the Eclipse and Messenger stock. Among the former, as the most prominent and successful stock getters, may be named American Eclipse, owned by

J. Kellogg, Oakland, bred in New York ; Young Eclipse owned by J. Voorhies, of Oakland, brought from New Jersey—both grandsons of Long Island Eclipse ; and Ontario Grey ; (Messenger,) sired by Bold Richmond, and said to be grandson of Old Messenger, brought from Ontario Co, N. Y., by Thomas Kelly.

My blood brood mare Betty, whose dam was also a Messenger mare, a large beautiful animal, blood-bay, has frequently been on exhibition, and has invariably been awarded the first prize, in each class in which she has been allowed to compete, as will be seen by reference to the records in the State Society's "Transactions ;" — was sired by Young American Eclipse, bred by J. Kellogg of Saratoga N. Y., grandson of Long Island Eclipse. She is now seventeen years old has bred fourteen colts, (Farmingtonian being her tenth). At our late county fair, I exhibited her in connection with her offspring, seven of which were awarded first premiums. She has bred to eight different stallions, six from the eastern States, and two from the South, which resulted in favor of crossing with those nearest akin to herself. She bred her five last to Sir Archie, all of which are even, fine colts ; clearly showing, in the last cross a decided "hit." It is not from any personal pride, or desire to make the merits of this favorite animal more widely known, that I have detailed so much of her past history, but simply to call attention to facts, and chronicle the results of several experiments in breeding.

As additional testimony of the success of a cross of our best mares, with this celebrated family of horses, it is sufficient to state that many of their progeny sold in eastern markets, at high prices, long before their value was fully appreciated at home ; some specimens, however, are still retained among us : among others, may be mentioned one pair of mares, (Messenger,) twenty years old, bred, and still owned on a farm adjoining me, which have wrought in collars, side by side, for the last sixteen years, and can yet, if required, perform fifty miles a day, without injury.

Previous to the construction of railways, and introduction of planking, an effort was made to overcome the resistance of difficult roads, by resorting to a cross with heavy draught horses ; the Alfreds, and Samsons were most numerous with us ; Hlll's Victor, of Genesee ; Wm. Whitfield's Alfred, of Pontiac and C. C. Norton's Oseola, of Grand Rapids, are among the best specimens of this class, with which I am acquainted ; many good teams for slow business have been produced by this cross, but they are not usually considered fleet enough, for the fast notions of the present day, and are consequently, too unattractive in market, to command remunerative prices.

Still later, a variety of other horses, of various merits, have been introduced : viz., Hickorys, Sweetbriars, Durocs, Highlanders, Printers, Telegraphs, &c., many of which have left good specimens, but not sufficiently numerous in this quarter to establish a reputation as superior stock-getters. I will mention here, however, that Capt. Waterman's Cherokee has left some roadsters of marked excellence.

The increasing demand, and high prices paid for *good* horses, together with the interest excited by our national and state exhibitions, have given an impetus to the business of horse-breeding, quite unprecedented here, as elsewhere. More systematic and scientific measures are being adopted. The strife for improvement is at present principally confined to two distinct classes : viz., Morgans, and blood horses, all the essentials of a perfect animal are claimed, by their friends, to exist in the former ; the friends of the latter, hold to the theory of up breeding, and "excelsior" is their motto.

The following may be referred to as a good representation of the above named Morgans : viz., Turner's "Washtenaw Chief, of Ypsilanti, who has patrons in this locality ; Wm. Henderson's Morgan Eagle, of Pontiac ; Harris Newton's Black Hawk, and Orphan Boy, of Avon ; Hawley's Black Hawk colt, of Pontiac, and S. D. Brown's Black Hawk of Farmington.

Of the bloods, may be mentioned Sir Archie, now owned by W. Simmons, Farmington ; Grey Eagle, owned by John Hamilton, Flint, and said to be the fastest stallion in the State, by one who onght to know : viz., John Hamilton ; W. White's Consternation, of Southfield, sired by imported Consternation ; and Farmingtonian, owned and bred by myself. My neighbors, Messrs. Eldred and Gregory, have introduced, in addition to their well-known Hambletonian, two young stallions, distinguished as Long Island, and Kimball Jackson.

We have no race or training course, but few professional horsemen, and still fewer fast horses, when compa ed with the records of the jockey clubs, yet occasionally, we meet with a "green one" which shows symptoms of speed, as in the case of M. E. Crofoot's family horse, Grey Messenger, who was was ridden gracefully by an accomplished young lady, inside of a three minute gait, and driven to wagon, by the same, with remarkable skill, in about 2.40, at our late county fair ; and C. A. Green's colt Avon, to whom was awarded the first prize in his class, as a trotting gelding, at our late State exhibihibition. We are, as yet, inexperienced, but present prospects augur well for the future.

C. W. GREENE.

Farmington, Oakland Co., Mich.

Sugar Making from the Sorghum.

Joseph S. Lovering, an experienced sugar refiner of Philadelphia, during the season of 1857, has reported a series of experiments in making sugar from

the Sorghum plant, which effectually settles the question as to possibility of making sugar, and also the ease with which it can be manufactured. Nearly all the experiments in this state resulted in the production of a syrup or molasses of inferior quality. The only very superior sample being that produced by Mr. S. O. Knapp, of Jackson, on a fourth or fifth trial. In conversation with Mr. Knapp, during his experiments, we suggested that one of the reasons of his want of success in making sugar, arose from the syrup not being subjected to a sufficiently high degree of heat. It will be seen by what is related of the experiments of Mr. Lovering that to make crystallizable sugar, it is necessary to heat the syrup to a temperature of 236 to 240 deg., or from 24 to 28 degrees higher than boiling water point.

We condense the report and give the operations of Mr. Lovering rather than the details with all its particulars, for which we have not room.

The apparatus which Mr. Lovering used is within the reach of every one. It consisted of a pair of iron rollers seven inches in diameter, and twelve inches long, set in a frame with a crank to turn by hand, a spout set beneath to collect the juice, a few common sugar molds, some ivory black, or animal black, or bone charcoal, as it is termed; two filters made of bed ticking, shaped like long pudding bags, a thermometer, a Beaume's saccharometer, a copper kettle of ten gallons, a ladle, some tin pans and some pails to hold the juice.

Mr. Lovering found by the use of the polariscope, that the clarified juice of the cane cut on the 28th of September or before the seed was ripe indicated 5.57 per cent of crystalizable sugar in the juice by weight. An experiment of the same kind, made on the 23d of October, on juice taken from canes which had been cut when the seed was ripe, and which had withstood several nights of white frost, and also when the ice had made to nearly a quarter of an inch, indicated 7.29 per cent of crystallizable sugar in the juice. Showing that the proper time to cut the canes is when the seed is ripe, and also that the canes may be cut and stored away or shocked in the field without suffering any deterioration.

The first attempt to make sugar was on the 30th of September from canes cut when the seed was just beginning to turn brown. The result was a "dark, thick, viscid mass," which stood six days without signs of a crystal, when it was placed over a flue and kept warm for four days, when it yielded a crop of soft crystals. This parcel was from the juice which weighed 9.00 by the saccharometer, and had been treated with milk of lime to neutralize the acid, and was clarified with eggs and then boiled down to 240 deg. Fahrenheit.

On the 13th, 14th, 15th and 16th of October Mr. Lovering cut each day respectively fifty feet of a row. In each fifty feet there were about eighty-three canes, which produced eight gallons of juice that weighed 10° of the Saccharometer. Five gallons of this juice was first mixed with three table spoonsful of milk of lime, to neutralize the acid; then a pound of bone black was stirred in with eggs, and the kettle was placed over a slow fire, at 215° Fahrenheit, he took off a "dense, thick, green scum." In one of the parcels the eggs were omitted. The whole was boiled down to a syrup of a strength that marked 22° of the saccharometer, and left to stand for five days. They were then again clarified with eggs and a scum again taken off, then raised to 225° F. and clear lime water was added in small quantities to coagulate the vegetable albumen, *which is not disengaged at a lower temperature*, but which may then be observed as a whitish scum, very tenacious and glutinous, and which is very detrimental to crystallization. Mr. Lovering then tried to filter the syrup, but found it so ropy and tenacious, that it would not run. He then diluted it till it was only 10° of the Saccherometer, when it filtered freely. It was then passed through five feet of animal black, which made it part with its coloring matter. This lot was divided into three parts: The first was boiled to 230 deg. F., which was found to be too low; the second was boiled to 246 deg. F., and the two were mixed, and in a few minutes crystals began to appear. The third was boiled to 238 deg. F. These parcels were all put in sugar molds and the result on the 2d of Nov. following was 11½ pounds of sugar of yellowish brown color, and as dry as 2d quality Cuba with 2¼ gallons of molasses. This it will be recollected was the result of 200 feet of canes, set in rows four feet apart, and the canes six to seven inches distant from each other.

In an experiment made after this, Mr. Lovering let the juice stand too long before sugaring off, and lost the whole, it having become very acid, and too far gone in fermentation.

In the next experiment, which was made with canes cut the 2d of November, Mr. Lovering dispensed with the ivory black and the filtering, cutting and grinding only the six or seven lower joints of each cane, 100 canes the produce of 58 feet of a row, produced ten gallons of juice, weighing 10° of the saccharometer. The acid was neutralized with milk of lime first, the juice was then clarified with eggs at once and passed through 3½ feet of bone black and it was then boiled to 234 deg. F., after standing an hour the crystals were large and sharp, ut not abundant, owing to the fact that 234 deg. was not high enough; another lot treated in the same manner, and boiled to 238 deg., was crystallized easily. The whole put in molds, and allowed to stand for seven days, to drain.

From results like these it appears that 232 feet of canes, yielded 19¾ pounds of sugar 25¼ pounds molasses. This is at the rate of 928 pounds of sugar and 98 gallons of molasses per acre.

Mr. Lovering observes that the sugar made in the last mentioned way was perfectly dry, and worked without the slightest difficulty in any stage of the process.

There are details of other experiments after the cane had been thawed out by the Indian summer weather which followed the first frosts of last fall, but which only show that the quality of the juice was deteriorated. The following conclusions are deduced from the series of experiments.

1st. That it is obvious that there is a culminating point in the development of sugar in the cane, which is the best time for sugar making. This point or season I consider to be, when most if not all the the seeds are ripe, and after several frosts, say when the temperature falls to 25° or 30° F.

2d. That frost, or even hard freezing, does not injure the juice nor the sugar, but that warm Indian summer weather, after the frost and hard freezing, does injure them very materially, and reduces both quantity and quality.

3d. That if the cane is cut and housed, or shocked in the field when in its most favorable condition, it will probably keep unchanged for a long time.

4th. That when the juice is obtained the process should proceed continuously and without delay.

5th. That the clarification should be as perfect as possible by the time the density reaches 15 deg. Beaume, the syrup having the appearance of good brandy.

6th That although eggs were used in these small experiments, on account of their convenience, bullock's blood, if to be had, is equally good, and the milk of lime alone will answer the purpose; in the latter case, however, more constant and prolonged skimming will be required to produce a perfect clarification, which is highly important.

7th. That the concentration, or boiling down, after clarification, should be as rapid as possible without scorching—shallow evaporators being the best.

With these conditions secured, it is about as easy to make good sugar from the Chinese cane as to make a pot of good mush, and much easier than to make a kettle of good apple-butter.

Farmers and Farming Tools.

LETTER FROM AN AMATEUR.

DEAR JOHNSTONE: — I am going to write you and my brother farmers, mechanics, and all interested, a homily on *Tools*. My doctrine is, that to do *good work* must have *good tools*. *Your* tools are the types, cases, rules, composing sticks, forms, ink, paper, &c. To do good work, to make a respectable, readable sheet, to make such a fine looking periodical as the artistic farmers of the Peninsular State must have and do have these tools, must all be of the best quality—of the finest manufacture. How would it do for you to use old pewter faced type, wooden rules, wooden forms, poor ink, wrapping paper, and print on a hand press? You would'nt print the paper if you were obliged to use such materials—not at all.

The mechanic, the worker in every art, except the *terra-culturist*, must have the best of tools or he wont work. And who blames him? The most expert artist would be counted a bungler by his tribe, if he were to work with the meanest tools. It's just so in farming—no difference; only bungling farmers are not laughed at, because we have been a bungling, awkward, wheel-horse set, from Adam out of Paradise, down. Farmers are not expected to be men of taste and refinement, and not very particular about either their appearance, manners, or conversation. This may sound harsh to some, but it is true nevertheless. I am a farmer and have mingled among farmers all my life, and I know them. I know there is less refinement among them than among any other class. But what has all this this to do with *tools*? A good deal. Some how or other, there is a close connexion between man's inner and higher nature, and all material things. If he has a rough tenement to dwell in, is engaged in rough work, and has rough, bungling tools to work with, it would be miraculous if the man was gentle and refined. But give him a tasteful dwelling, and surround it with beautiful trees and flowers and vines, and put the best of implements in his hands, and it would be *more* miraculous if he was rough and ill-mannered. Every time his eye rested upon his home, or glanced across the rose-gemmed door-yard, and ever when he snuffed the fragrant air, his heart would be touched, and springs of deepest feeling would overflow his soul. I am no stickler for a false, squeamish refinement, but I *do* think that farmers might greatly improve in this respect.

But as to the best tools for farm use:

Plows.—Among all the different kinds of plows I have worked and seen worked, I find the justly celebrated Eagle Plows, made by Nourse, Mason & Co., of Worcester, Mass., altogether superior, in materials used, lightness of draft, perfection of finish and ability to do good work. For a single team I know of no better than their No. 2. Eagle. For three horses none better than the deep tiller, stubble, No. 33.

Harrows.—I use the Scotch Harrow, and think it better than the Geddes harrow, which I have also used. It contains thirty-two teeth, ⅞ iron, steel pointed. It is a hinge, or double harrow and when desired it may be unhinged and the parts used separately, which is often a great convenience.

Cultivators.—For two horses I use Ide's patent wheel Cultivator. It is a very efficient implement where there is nothing on the surface to clog the teeth. It justly requires three horses. For pulverizing the soil, it is more efficient than the plow. For working among corn, etc., the expanding and revers

ble tooth cultivator, of Nourse & Mason's manufacture, I like the best. Last summer I procured at Penfield's, Detroit a new implement made by the above named gentlmen, which they call the "*Horse Hoe.*" It is the best implement for the purposes to which it is put I ever used. If the work among corn is commenced in season, there is no use for the hand hoe and the field can be kept as clean with it as the New England farmer keeps his by hoeing three times. It is equally serviceable among potatoes, carrots, turnips, etc. When used among carrots and other roots, the side teeth are taken out, making it a perfect weeder.

Planters.—Among the thousand and one seed planters, there are none, which I have seen, that I like as well as Emery's. It plants all manner of seeds from an onion seed to beans and corn, with great accuracy and dispatch.

By the way, will some of your readers who have tried drill and hill planting of corn give us their convictions, and reasons therefor, in regard to the comparative profits of these two modes.

Subsoil Plow.—I have used the lifting subsoil plow on a ten acre field, but do not consider it a profitable tool on my farm, owing to the character of the subsoil, which is a coarse gravelly loam. I am not, however, *fully* satisfied in regard to its utility on such lands.

I forgot to mention, that for sward plowing, I use Nourse & Mason's Deep Tiller Sod, No. 75. It is an admirable implement, working ten inches to a foot deep, and fourteen inches wide. I use a "Jointer," or small plow on the beam of all my plows, and for all kinds of plowing. The most perfect Jointers I have met with are made in Livingston Co. N. Y., and are kept for sale by an enterprizing firm at Battle Creek, Mich. The name of the firm I do not now remember, but their place adjoins the freight depot of the Central Railroad.

I use a mouldboard plow for furrowing out for potatoes, but a double mouldboard would be much better.

A shovel plow I would not use if furnished me gratuitously. It is an awkward, ungainly *thing*, and the name of the inventor is justly gone into oblivion.

HUGUENOT.

Red Blaze Corn.

MR. EDITOR: — I would like to see in the *Farmer* a statement of the experiments of farmers with the different kinds of Indian corn cultivated in this State, so that we may get at the facts as to which is the best kind to grow. To commence, I will give you mine. I have heretofore been quite partial to the Dent, but last spring I procured a new variety lately introduced here from the State of New York, called "Red Blaze," and by some the "Smut Yellow." It is an eight-rowed, yellow variety, producing long, handsome ears, tipped with red, and sometimes streaked with red down one side where the husks open. It has a small cob, and breaks off easily in husking. Where it originated I cannot tell, as I never read of it anywhere. I planted a piece of it the fourth of June last, on a clover sod, plowed eight inches deep, the soil a stiff loam without manure. I planted four feet apart each way, and thinned to four stalks in a hill; did not hoe at all, but kept clean with a cultivator. At harvest I measured off an acre and husked it by itself. It yielded one hundred and twenty-one and a half bushels of ears of good corn, and I intend to give it another trial the coming season.

J. A. ROBINSON.

Battle Creek, 1858.

[This corn was mentioned in the last volume of the *Farmer* as being grown by Benjamin Fowle, of Moscow, Hillsdale county. It proved early and ripened well.—ED.]

Some of the Profits of Sheep.

Last year I sheared four hundred and sixteen pounds of good clean washed wool from fifty-nine sheep, being about seven pounds per head, which sold at forty-five cents, averaging me $3.17 per fleece. I raised from the flock thirty-seven lambs worth five dollars a head, which amounted to $185. This added to the wool money makes $372.20. My sheep are Spanish Merino, and mostly breeding ewes. I feed with tame hay and but little grain. I have forty one in one flock that I feed half a bushel of bran and oat smixed about half and half, once a day, and they will gain on that from the time they are taken up in the fall until spring.

I notice in a late number of the *Farmer* that something has been done in the way of examining the fineness of wool; I suppose I can show as fine merino wool as there is in the country, but the finest wool is not always to be found on the best sheep, nor the most profitable. I have seen very fine wool on small sheep which I would not consider worth wintering on account of their being tender and shearing very light fleeces. I am in for the fleece that will fetch the most money and keep easy.

I still hold myself ready to shear bucks or ewes against any sheep in this State, for one year's growth of clean wool.

B. PERRIN.

Parkville, Jan. 1858.

How I built a Cellar Wall.

In building a new barn during the first year, at my farm at Grosse Point, I was desirous of providing a good root cellar. I had a plenty of small cobble stone. I could not get quarry stone or brick without considerable expense. I therefore, resolved to to use my cobble stone. Next, I could not conveniently get a mason, so I thought I would see what could be done without. And under my suggestions

my farmer with the help of one common laborer, with no tools but a barrow and shovel, built me a cellar about twenty feet square, which this January I am entirely satisfied with.

My plan was this. In digging the cellar I was careful to have the earth cut with a smooth and straight face. I then set scantling so that by putting boards inside of them they would form, with the earth sides of the cellar, a crib in which the walls were to be carried up. For the outside walls the crib was fifteen inches wide, for the inside twelve inches. A layer of mortar was then shovelled into the crib and a layer of cobble stones carefully packed into it. Then another layer of mortar—making it thin so as to fill all spaces—then another of stones, and so on till the whole wall, 7½ feet high, was completed.

I thus found I had a good wall and a very cheap one. Such a wall should of course be protected on the outside from frost and the drippings of the roof.

When this wall was built, the bottom being wet I used water lime for the first few courses, and I think this would be advisable in most cases. *One* bushel of water lime to *three* of sand will make a suitable cement. I tried only *one* to *five*, but I found I did not use enough water lime. This, Mr. Editor, was the way I got out of my difficulty. Should any of your readers ever be in a like one, and see no better way, it will at least not cost them much to try mine.

G. V. N. L.

Detroit, January, 1858.

Insurance for Farmers.

Editor of the Farmer:—One of your correspondents in the January number of the *Farmer*, says he sustained a loss by fire, having no insurance on his building. He proposes a way of insuring, with the object of saving to ourselves a large sum, which for many years has glided into the pockets of the stockholders, travelling agents, officers, &c., of the various companies for insuring against loss by fire.

With his plan I find no fault; I would prefer it, by far, to the system under which we have submitted ourselves for a long time past, paying a heavy sum on our least hazardous property, to indemnify the companies on the more hazardous risks they take in cities and in the country. I will, however, inform the readers of the *Farmer*, what we have done in these "diggings" for the same purpose, and then the farmers can make the third, adopt the first or second, or reject the whole as may seem good in their eyes.

In 1855 a few of us met and examined the skeleton of a proposed constitution or articles of agreement, whereby we would unitedly bear one anothers burdens, in case we suffer by fire. Without a very stormy session our boat was launched, and it has carried us very safely through two years, and making good headway on the third. I will give you the frame of our constitution in as few words as possible, and then feel under great obligations to any, for suggestions, which will improve it, for we do not suppose it to be perfect. We take none but farmers, and the buildings of farmers, and such property as they usually have in their houses, barns, &c.

We have an executive committee of three, the secretary being one of the same, who are to make the necessary rules for the safety of the association and in case of fire, to immediately visit the premises, ascertain whether the fire was honest or otherwise, the amount of the actual loss, and make an assessment, adding two per cent for collection, one dollar each per day for the committee while engaged in the business; and, in case of disagreement, between the committee and sufferer, each party to choose one from a different town in the county, than that of their own residence, those two to choose the third or decide themselves, and this to be final. We choose likewise annually a secretary and collector. The one uniting with us, files his schedule of property with the secretary, paying him twenty-five cents as his perquisite; we let each one make his own estimate upon his property, but if burned the committee will allow him no more than they judge to be the true value, not exceeding his estimate, and the amount insured by each one is the sum on which he is to be assessed. Each one signs the articles of agreement, binding himself to carry out the same in good faith, agreeing that judgement may be rendered against him in case of refusal to pay his assessment.

That it may not be too unwieldy, we confine our association to the county. And now the question is, whether it is any security if a loss occurs? In answer we think it is a perfect security, for we think we have a legal right to associate for this purpose, and we think every member honestly means to have it good, and then we think, that we could not dodge if we wished so to do; as yet we have had no loss, and all hope that it is far in the future before one happens. We all say that we feel safer under the association than we ever did under the former ones, where we obtained policies. Individuals of our company may fail, but our *company* never will. We need no treasurer, for our object is, not to make money, but to save it. Many think that a charter is needed—it certainly would do no harm, and perhaps, make it better we have applied for a general act, but as the time for holding the present extra session is limited, we shall not be disappointed, if they cannot attend to us, this winter.

M. Kenny.

Webster, Washtenaw Co., Feb. 2, 1858.

☞ S. D. Blood, of Kalamazoo, died of apoplexy in that village, on Monday the 22d of February. He first brought the Sherman Black Hawk, a horse noted as a good stockgetter, into this state.

Our Note Book—Washtenaw County.

Dexter—Sirloin—Stone Plover—E. Arnold's stock—Henry Warner's Stock.

We paid a brief visit to Dexter and some of the farms in its vicinity last month, whilst good sleighing lasted. At Dexter we enjoyed the hospitalities of Judge Dexter. Here we found Sirloin, the premium four-year old shorthorn of the late state fair; he is not quite so full in habit as he then was, but he might be reduced still further, with benefit to his quality as a stockgetter. Mr. Jones, who has charge of the farming operations on this somewhat extensive estate, has made a good selection of cows, which are all in calf to Sirloin. One of them, though not of large size, is very superior in form and handling quality, as well as in shoulder, chest and crops. This cow was purchased from Dr. Jeffries, who selected her in Canada, and she is certainly a proof of his discrimination as a judge of stock. Here also were two very fine foals of last spring from Billy Boston, both of which showed the breeding of the sire very clearly, and one of them shows great promise of speed. Both are already of more than ordinary size for their age, and are in fine growing condition. Mr. Jones feeds no corn whatever to these young animals, a little bruised oats and the best timothy hay being their fodder for the present. The only want here was light; there was no light in the stable in which they were kept, which was roomy and dry, but dark when the door was closed. One of the first points which a horseman examines in a valuable animal is the eyes, and yet young horses are frequently shut up in dark stables and left without light except what they get when led out to water twice a day, and expected to have sound eyes. We are very sure that defective eyes frequently occur from weakness contracted whilst colts are shut up in dark stables. "Let there be light," was a command given before any living thing could grow, and it is still a behest which should be obeyed with scrupulous exactness by breeders of livestock. In the hogpens there were thirty-one swine in good growing condition, of a cross of Byfield sows with Suffolk boars. It was designed to winter these hogs over, and not kill them till next fall, a design of which we doubt the economy; for the reason that an expenditure of three or four dollars per head would probably now make these hogs weigh from three to three hundred and fifty pounds each, while their keep and preparation for market till next fall will not be less than eight dollars per head, and at that rate they ought to average five hundred pounds each. We believe the same weight of pork could be obtained more profitably from early litters of pigs which would not cost so much to keep them in condition, and with which there would be greater profit on the growth. It must be remembered that it is not the size of the animal in which the profit of the farmer lies, it is in the cost of each pound. Mr. Jones has two breod mares in foal to Stone Plover, both good animals to breed from, and we hope to see some excellent horses raised on this farm. The efforts which Mr. Jones has made to introduce valuable stock into this part of the county are highly praiseworthy, and we think he will make the business remunerative.

Within a short distance of Judge Dexter's house we found Mr. Thos. Williams, the proprietor of Stone Plover. Mr. Williams has some choice Leicester sheep which he imported, and some of which might be found useful as crosses, by those who are breeding this variety. Stone Plover was loose in a large and roomy stall, and in good condition. We took some time to examine him more thoroughly and closely than we have had opportunity to do before. His blanket was taken off, and we passed over his various points with much satisfaction. Take this horse without a pedigree, and in any place he would be pronounced a most remarkable animal. He stands a little over sixteen hands high; and is a rich bay, with glossy black mane, tail, and legs from the knees and hocks down. His head is clean, bony and fine at the muzzle, without being delicate, his facial line straight, with good breadth between the eyes; the eyes prominent, full, dark, and bold in expression; the ears fine, very pointed, and lively in movement. The head is well set on the neck, and is carried with a peculiar grandeur. The neck is long, arched enough to be graceful, and full at its base without any fleshy coarseness, tapering off moderately to the thin jowls. The withers rise moderately high and thin, with the point set well back, and sustained by shoulders of great breadth, depth and large muscular substance; these cover a chest which, besides being broad enough for the height of the animal, descends so low that he seems short-legged, though not disproportionately so. Joined to the great shoulder is a long and very muscular arm, which tapers to a flat, bony, sharply cut knee joint, that for manifestation of power excels that of any horse we have seen, and we have some personal knowledge of Boston, Wagner, Sovereign, and Scythian. The shank below the knee is short, small as a lady's wrist, in front, but flat on the side, with prodigious sinew. The pastern is neither long nor short; the foot is small, round, and perfect. From the withers to the croup, the back is short, getting broader and flatter the nearer it comes to the hind-quarters, the loins being wide, with immense muscle; the croup is rather high, and long, carried out somewhat straight causing the tail to be set high. Though short in the back, Stone Plover is a long bodied horse, with a barrel both round and deep. The hind quarter is of large size, and displays enormous muscle, reaching far down to hock joints clean made, straight,

powerfully knit, and joined to legs short, flat, smooth and free from blemish. We feel well satisfied to have such a horse in this state. Those who are curious about his pedigree are referred to his advertisement where it is given with much exactness. Some of the main points which we like in this horse are his soundness, evident strength of constitution, size and substance. Crossed on mares selected for size and action, we believe his progeny must possess qualities that will give a high character and standing to the stock of Michigan, and that they will be found particularly valuable as trotters excelling in vigor, speed, endurance and style.

Stone Plover ran for the Derby in 1853, against a large field of three year olds, he being the favorite at heavy odds, his full brother and sire being each winners of the Derby, and his grandsire winner of the great St. Leger; his owner however came to the conclusion that there was more to be made by losing than by winning, and accordingly West Australian won the stakes, but the owner of Stone Plover pocketed bets to the amount of sixty-five thousand pounds, and together with the horse was read off the racing grounds of Great Britain by the Jockey Club.

Perhaps it may not be out of place to make a few notes on the pedigree of this horse, though to those familiar with the records of thorough bred horses it may not be necessary. Scythian is an importation on which high value has been placed in Kentucky; but he is closely allied to this horse by sire and dam. The sire of Scythian was Orlando by *Touchstone* out of Vulture; again, Scythian was out of Scythia, the daughter of the Princess, a famous winner of the Oaks cup in 1843, who had *Slane* for her sire. Here it will be noted are both the grandsires of Stone Plover. Slane had Orville, the grandsire of Priam as his grandsire on the side of his dam. Orville was likewise the grandsire of imported Leviathan, of whom Herbert records that "he did more to improve the thoroughbred horses of the United States than any other importation, except Glencoe, being the sire of the winners in 450 races between 1835 and 1853." Again, Cotherstone had for his dam Emma, the dam of imported Trustee, and he is now still kept at the Althorpe stables, and limited to twenty mares at $150 each. By this grandam on the side of his sire, Stone Plover is connected with the late importation into Virginia, Fly-by-night, as well as by his grandsire, Emma being full sister to the Maid of Lune, the grandam of the Flapper, the dam of Fly-by-night. The dam of Stone Plover was Wryneck, the dam likewise of the winner of the Derby in 1850. This slight sketch will give some idea of the quality of the horse we have amongst us; and when to this first-rate pedigree is added his superior form and size, both so well adapted to what breeders in this state want, we think it will not be considered out of place to direct attention to him whilst he is within our reach.

At Mr. Arnold's farm we found very extensive arrangements made for keeping a large stock of all kinds. The main barn is so constructed that the basement affords a large extent of stabling room. Each front of the basement opens into separate yards, some of which have sheds that accommodate with shelter such young stock as it is not deemed necessary to house at night. The ranges of stalls are constructed so that each stall opens into the yard by its own door. The stalls are four feet in width, but Mr. Arnold esteems three feet to three and a half wide enough. The length of each stall is eight to ten feet, and the partitions of the stalls are made of upright scantling, set a foot apart, and let into timbers above and below. This partition is strong, cheap, and answers every purpose. The cattle all feed through V-shaped openings, off the floor of the passage way which is in front of the stalls. There is a range with no opening in the rear, in which the cattle are tied by the head. Mr. Arnold feels satisfied that a trough is useless, and that whether it is millfeed, cut stalks or hay, the animals eat better from the floor, than from manger or trough; besides the labor incident to feeding and cleaning out the orts or refuse, is light and easily performed. The cattle are left loose in the stalls, without fastening either by head or neck. When the door is shut the animal is fully fastened in on all sides. The beam which forms the top of the V is four and a half feet high.

Among the implements which Mr. Arnold has tried the past year, is Allen's mower, which he considers superior in lightness of draft, closeness of cut, and ease of management to any mower he has yet seen in operation. We perceive that Mr. Allen strongly contests the decision arrived at by the committee which reported at Syracuse last summer.

Near this place is the farm of Mr. Nathan T. Sly, who had a range of 20 head of yearlings in fine growing condition. His fixtures are for fastening his stock by the horns, and feeding by manger. The business of feeding for market is carried on systematically here; young stock being selected and purchased, and kept only till they are ready to sell, and their places again supplied by purchase.

We would have called at the stables of Dr. Jeffries, who has a farm close to that of Mr. Sly, but we learned that he was not at home. The doctor is somewhat noted as a breeder of horses.

A few miles beyond Mr. Arnold's place is the farm of Mr. Henry Warner, who last year purchased a heifer of the stock of J. B. Crippen of Coldwater. She is a half sister to Bannerboy, Dr. Ransom's bull, being sired by Locomotive; she resembles Bannerboy in color and general form, being deep red, long in body, short in the leg, and fine in the head and

muzzle. She is in good order and condition, like all the stock on this farm. Mr. Warner had also a very superior pair of working oxen, which have frequently borne off the first premium at the Washtenaw fairs, and a good flock of well bred Spanish Merino sheep.

In company with our friend Dr. Gray, we made a visit to the farm of Mr. Brass, who has a large tract under cultivation close to the village, and which he would sell at a moderate price, as we think, and also to that of Mr. J. B. Arms in the town of Webster; the farm of the latter is beautifully located for either grain or stock. He gives much of his attention to fine wooled sheep, and his Spanish Merinos promise well. Mr. Arms was not at home, but when we visit Pinckney the coming season, we hope to pay our respects to that neighborhood again, as it is off the line of general travel, and presents a section of country, which even though covered with snow, promises well in its agricultural capacity.

Dr. Gray resides in the village of Dexter, and is raising a very stout and lively colt from Billy Boston, which promises well at the present time. So far the young stock of this horse, which we have seen is doing remarkably well both in size and action. Dr. Gray is agent for the *Farmer* at Dexter, and takes much interest in promoting agricultural improvement in the neighborhood.

From Dexter we went to Lima and Chelsea, and had an opportunity of inspecting the celebrated farm buildings of General Williams. During this visit we saw also on the farm of Mr. Bowen, the only Hereford stock in the State, and a number of other matters of much interest, of which we shall have something to say next month.

Raising Corn—A Proposition.

EDITOR OF FARMER:—Permit me to suggest a few ideas on the above subject. When I first began to raise corn where I now live, I was not the owner of a horse, and could not conveniently hire one, so I worked my corn by manual labor altogether. To my surprise I found my crops were as good as, or better than those of my neighbors, who worked among their corn with horse and cultivator or plow, mostly the latter, as cultivators were not plenty in this vicinity twenty years ago. This set me to thinking what could be the cause.

About that time, when on a visit to my friends in the state of New-York, I called on John Ayrault of Perrinton, Monroe county, who is well known there as one of the most efficient practical farmers in that part of the state. He gave me many valuable hints and much useful information. Among other things I learned his method of raising corn. I think he always p anted on sod or greensward, as it is called; he first made the ground rich, then plowed from eight to ten inches deep, rolled and cultivated or dragged, until the soil was perfectly pulverized; then furrowed or marked out three and a half feet one way, two and a half inches deep, planted in drills, I think, about a foot apart, leaving two stalks in a hill when thinned out. The variety was eight rowed yellow and white corn mixed, and was tilled with a fine tooth drag or light cultivator. This was as near his method of cultivating at that time as I can remember; and in this manner he said he had raised not less than eighty, and from that to one hundred and twenty-five bushels to the acre. This interview caused me to think still more on the subject. Some five years afterwards I was through the same neighborhood, and saw men hoeing corn without plowing, dragging or cultivation, and upon inquiry was informed that John Ayrault was hiring land of his neighbors, and tilling it altogether by manual labor. This again not a little surprised me, as I well understood that the notion was prevalent among farmers that the more we plowed amongst corn the better; and I knew that if John Ayrault did not consider hoeing the most profitable way he would not practice it. Then I began to experiment that I might discover why these things were so.

I prepared a small lot in a similar way to John Ayrault's method, planted yellow Dent four feet one way and about two the other, putting in plenty of seed so as to be sure of three good stalks to the hill. Through mistake, and myself being absent from home, there were left from four to eight stalks in each hill, until it was nearly two feet high. At this stage we pulled out to three, but it being so large, those that were left were much weakened. Soon after this there came a heavy storm of wind and rain, which nearly prostrated the whole to the ground. However it nearly all recovered in time, but the crop was undoubtedly much lesssened. It was kept clean from weeds by hoeing only; and to ascertain the result, I gathered four rows through the centre of the field, put it in the house chamber until it was dry, shelled and weighed, and by estimation found that it yielded at the rate of one hundred and three bushels of 56 pounds each to the acre.

From what I have seen and heard, I have come to the conclusion, that there is no better reason in cutting off the roots of the corn to make it grow fast and strong, than there would be in cutting off the veins of a man's arm every two weeks to make him strong and healthy.

In the first place to raise good corn and plenty of it, let the ground be prepared as stated before, then take first rate seed, put a pint of soft soap to every half bushel, stir till every kernel is wet with the soap, then add as much plaster as will adhere to the corn, and plant so as to have the hill, when done, level with the top of the ground. As soon as up keep it clear of weeds; but my opinion is that after the top crust is broken, the less we go below the surface

the better. Let all the roots of the corn grow, they are not designed to be cut off. Mind and keep the surface loose, and if you cannot make up your minds to plant in drills, which I am inclined to believe is the best way, if corn is the only object,) you may plant, if the Dent variety, and you wish to sow wheat among it, at least four feet each way, leaving four stalks in a hill; and having done your part well, you may reasonably hope for a good crop.

Who, with me, will prepare a piece of ground this spring, as before stated, and plant in rows four feet apart, running north and south, and from one to two feet the other way, and cultivate one-third of the field with the plow, one-third with the cultivator, and the other third with the hoe, otherwise giving each parcel an equal chance; keep an accurate account of the labor expended on each, and report the result to the MICHIGAN FARMER next fall? Suit yourselves as to the distance, and the number of stalks left in the hill, but put in seed enough so as to have as few missed hills as possible.

Corn is one of the most important crops in the state, perhaps I might say the most important, and my whole aim in giving these thoughts to the public is to induce farmers to endeavor, by actual experiment, to find out the best and surest mode of raising it so as to secure a profitable crop. Hoping these remarks will prompt not a few of the farmers of this state to try some experiments of this kind, and report the result for the instruction of others, I close.

WILLIAM BEAL.

Rollin, Mich., 2d month, 1858.

[We commend the practice of Mr. Beal to the attention of our readers, it is founded on the most correct principles of the physiology of the corn plant. The true reason for so much labor after the corn has begun to grow, is that the soil is only half worked before the seed is put in. No crop needs a mellower bed for its seed than corn, but how often is it that we see corn planted on a sod just turned up, raw, cold, and entirely unfitted to sustain or nourish the young vegetable? A little of the cold, stiff, and inert subsoil which the plough has probably only exposed to the atmosphere for the first time in ten years is scraped together loosely and forms the seed bed. Into this the newborn and nursling plant has to thrust its tender fibrils, on the principle of "Root, hog, or die!" Some of the plants are hardy enough to live through the hardships of the spring, and yield a scanty crop; more die altogether, or send up spindling stalks, without strength to mature seed, and only a mockery of a real corn plant; but the planter having an idea that his ground has not been properly prepared for the growth of the plant, about the time when the roots are spreading themselves on all sides, begins with the plow to rip and tear the soil by way of rendering it mellow. In this work he must necessarily retard the growth of the plant, and weaken it, and though it unquestionably renders the soil more fitted to sustain the corn and to feed the roots than it was when just plowed up, the cutting off the young roots is a serious detriment to the plant which ought to be avoided by a proper doing of the work at the right time.

We commend the proposition of our correspondent to all the great corngrowers throughout the State, and particularly to our friend S. G. Pattison of Marengo, who is one of the most successful and systematic corn-growers by horse power that we are acquainted with. Last year he grew a very heavy crop, on which he was awarded the premium by the Calhoun County Society and of which we hoped to have a full report from him by this time, the whole not being entirely husked and measured when we were there last November.

Measuring Hay.

The following letters will in some degree answer the queries of "G. V. N. L." as to the measurement of hay in the mow or bay. Mr. Davison has had a very large experience in purchasing for the supply of a great number of horses and mules. Mr. Congdon's measurement is not of such general application, and as we understand it only can be applied when a bay is fourteen feet deep, and full of hay.

EDITOR MICHIGAN FARMER, *Dear Sir*: — About the year 1827 I learned from the "Engineer's Pocket Book" (an English book) that 512 cubic feet of settled hay in mow would weigh 2240 lbs. or one ton.

At this rate I have bought many hundred mows of hay by measure. 457 (1-7) cubic feet will weigh 2000 lbs., with as much certainty as 2150.42 cubic inches of wheat will weigh 60lbs.

I haved proved this many times by measuring mows and weighing the hay for my own satisfaction, as well as that of others.

In consequence of the different heights of mows and different grasses, it requires an experienced eye to measure hay in bulk as it takes about 650 cubic feet of clover hay to weigh 2000 pounds.

Mr. L. can measure his mow by this rule and ascertain very near the weight of hay he has in store.

There is no guessing: it is my experience for thirty years, although there are exceptions to all general rules. Some cattle of the same weight require more provender than others; as a general thing cattle consume one-thirtieth of their live weight every twenty-four hours. Respectfully yours, W. J. DAVISON.

Chelsea, Washtenaw Co., Mich.

MR. EDITOR: — My experience in measuring hay has been to take a barn with fourteen feet posts, and fill the bay in haying time, with hay made principally from the Timothy and Redtop grasses, as full as it could be packed with convenience, leaving it thus

until November or December. I have then found that for every 384 square feet [we suppose Mr. C. means cubic feet], you will get a ton, there not being much over or under. I have seen mows that measured 27 tons at this rate, and when taken out and weighed, the quantity did not vary enough to pay the weighmaster. In cases where there was any variation, it was in favor of the buyer, but the amount was a mere trifle. This rule I consider a a safe one for either party.

WM. CONGDON.

Plymouth, Feb. 11, 1858.

Our Note Book—Kalamazoo County.

Lands in Pavilion—Mr. Walbridge's Farm—Farm of B. S. Williams.

There lies to the southeast of the village of Kalamazoo, a section of country which is as yet but thinly settled, but which presents many inducements to those who are looking for lands on which to settle and to make homes. The soil is good and brings good crops of wheat. There appears to be good water and ample facilities for raising stock. In this region in the southern part of the town of Pavilion, is located the farm of the Hon. D. S. Walbridge, the present representative in Congress. There are about one thousand acres in this farm, of which about three hundred have been cleared, and two hundred are as fine a picece of marsh as can be found in the State, only wanting the expenditure of a small amount of capital to render it of the utmost value as an aid in sustaining stock. Mr. F. E. Walbridge, son of D. S. Walbridge, has taken hold of this farm with a most praiseworthy energy, and within the past two years, has effected very great improvements. A large range of buildings in the form of a square has been erected, capable of accommodating two hundred head of stock, and if necessary, with lofts for their food, yards to keep each kind separate. When we were there, Mr. W. was just securing, a very magnificent crop of corn, which he calculated would average from 70 to 80 bushels to the acre.

It is an operation which requires much time, and labor, to get such a farm as this into workable order. Heavy and most substantial fences have been erected, and fields laid out and seeded down ranging from 30 to 40 acres in size. Separate pastures were occupied by yearlings, two year olds, and some thirty head of cattle which were to form part of those which would be put in condition for the beef market during the winter.

To perfect his feeding arrangements, Mr. Walbridge was preparing to erect a steaming apparatus, and had already got his boiler on the ground. The boiler house was to be erected about one hundred yards distant from the barn where the steam was to be conducted to it in underground pipes. We hope to notice the operation of this arrangement at some future time, as well as its economy.

Mr. Walbridge had nine breeding mares on this farm, every one of which was in foal to Black Hawk Beauty, the stallion to which was awarded the first premium in the class of all work at the late State Fair. As these mares collectively combined many different qualities, two of them being Morgans, one pretty nearly thoroughbred, and others, of no particular blood, except that they were fair representatives of the stock of the country, we feel somewhat curious as to the result, and shall watch the growth of the colts. The horse himself contains much thorough breeding, and great substance, but we doubt the propriety of using him with Morgan mares, as in such cases the Morgan size and form is too apt to predominate in the progeny.

Mr. Walbridge had also a few head of the improved Shorthorn stock, having purchased a part of the herd brought by A. Y. Moore from Ohio. A cow named Evaline, was of good quality of large size, red in color, not quite perfect in the hind quarters but good before, having a deep brisket, and fine head, and well filled out behind the shoulder. A two year old heifer and a yearling bull did not show well, but both had been somewhat stunted from of want of care, before they came into hands of Mr. Walbridge, and had not had time to recover. The bull, we believe, was sired by imported Hearts of Oak and, though showing he had not had much of a chance was still likely to improve, and if fairly dealt by this winter, as we doubt not he will be, will show this coming season what he is made of, but he must be limited in his services; for with the stunt of the first year, and too much freedom the second, all the blood from Blyth Comet down to the latest importation, would not save him from being a spoiled and useless animal. Get him handsomely into growing in this second year, he may do much towards improving the stock of the surrounding neighborhood.

Four or five miles to the southward in the town of Brady, lies the farm and residence of Mr. Bradley Williams. He confines his operations chiefly to sheep and wheat, for which the soil is admirably adapted. His flocks of fine wooled sheep were very promising, and his field of young wheat evinced that carefulness of tillage which gives evidence of the skillful and reflective agriculturist.

Important Decision to Pre-emptors.

The Commissioner of the General Land Office has made the following decision on pre-emption claims upon lands reserved for railroad purposes, which will be found of general interest:

1. Pre-emption claims upon any lands withdrawn from market for railroad purposes, where the settlements were made in good faith with the government before the passage of the law making the grant, and prior to the "definite location" or surveying and staking off of the route of

the road, are subject to consummation within the period fixed by law for proving up and entering offered and unoffered lands at one ordinary minimum of $1.25 per acre, and payment may be made in specie, or with military bounty land warrants.

2. After the survey and staking off of any route, the pre-emption right ceases on the railroad sections; but from and after that date the United States reserved sections within the six limits of the route are pre-emptible as a minimum of $2.50 per acre till the "date of final settlement" of the alternate sections to which the railroad is entitled.

3. From the date of the final allotment aforesaid till the date of offering the United States reserved sections at public sale, pre-emption rights to lands in such sections cannot attach; but after the offering the reserved sections again become pre-emptible at a minimum of $2.50 per acre.

4. When the $2.50 minimum attaches, bounty land warrants, under the act of March 3, 1855, cannot be used in part payment, there being an express inhibition of such use in the statute; but warrants issued under prior acts of Congress may be so used—one warrant only to be laid on a single pre-emption claim at the rate of $1.25 per acre, and the balance required to make up the $2.50 to be paid in specie.

Agricultural College.

SEC. 16. All of said swamp lands situate in the townships of Lansing and Meridian, in the county of Ingham, and in the townships of De Witt and Bath, county of Clinton, except such as have been occupied by persons entitled to pre-emption under this act at least thirty days next previous to the passage of this act, shall be reserved from sale by said Commissioner, and possession immediately delivered over to the Agricultural College for its use, and for the purposes of drainage and reclamation in accordance with the provisions of the act of Congress donating the same to the State.

The above section of the SWAMP LAND ACT passed at the recent session of the Legislature speaks for itself.

The land we understand embraces about 7,000 acres, exclusive of that which is claimed by right of pre-emption.

We regard this as a most sagacious act on the part of the legislators. The Farm of the Agricultural College consists of 676 acres, mostly of forest land of the finest description. It must be obvious to every practical man that the number of students that can be maintained on such a tract, must for a long time be limited, especially if any timbered land is preserved.

The number that the original farm would sustain, would probably not much exceed 200. The largest contiguous quantity of the land now granted to the College, lies at an average distance of 3½ miles from the College It is a great natural meadow, capable of being completely drained, and brought under high cultivation. From 2000 to 3000 acres can be subdued in one mass. It will readily be perceived, that dairy productions, beef and other animal food for consumption, can be eventually supplied at the lowest cost. Stock breeding and raising can be carried on independently and cheaply. Hay, corn, &c., can be cultivated extensively and systematically so as to render the Institution independent of fluctuations.

The tract cannot be cultivated from day to day by the students, but it will afford graduates and students during vacations, ample opportunities to study the effect of systematic drainage, the utility of planters, cultivators, drills, mowers, horse rakes and other implements, in the cultivation of land rendered thoroughly arable. The comparative value of various kinds of grasses, corn and root crops, can be tested. In fact no Experimental and Model Farm could be regarded as complete prospectively without such a tract.

We do not see why the Institution with the great facilities this tract will afford for supplying cheaply all animals, and animal food, may not at no very distant day embrace *one thousand* students.

It is the more gratifying to find this advantage to our State Institution thus almost Providentially supplied, at the moment when we perceive half a dozen States following closely in the footsteps of Michigan in the establishment of such Colleges, and most of them under conditions so much more propitious that they bid fair at once to prove more comprehensive and successful than our own, if they merely improve the superior facilities afforded. The enjoyment of the tract of land in question, will eventually place the Michigan Institution, in regard to an elegible and profitable estate, on a level with the most favored of them.

How the remainder of land can be most judiciously used so as to promote the objects of the grant, remunerate the Institution for expenses incurred in converting the central tract to cultivation, and facilitating its early settlement, are questions for future consideration.

Although it affords the College no immediate income, we yet regard the reservation and appropriation in question as an enlightened act, worthy of the highest commendation.

We are gratified to learn, what we have always regarded as a certain and necessary result, that landed estates in every direction from the Agricultural College have arisen in value from 10 to 100 per cent according to distance.

A Warning to those raising Young Calves.—A friend in the country writes:—"We had a very fine calf, and for want of time to fix a proper place for it, we let it run with the cow till it was about two weeks old. We then put it by itself in the early part of the day, and at night fed it new milk from the cow. The next morning we did the same, and, as it had been in the habit of helping itself from the cow when it liked, we thought we would feed it at noon too. Accordingly we warmed about two quarts of skimmed milk which it ate very readily. At night we gave new and skimmed milk mixed, about half and half. I should think the calf drank about three quarts. In the morning it seemed rather stupid, but drank about a quart or three pints of skimmed milk. At noon it was very sick, and died before night.

To discover what ailed it we had the stomach examined, and found in it a lump of curd as hard as a new pressed cheese, as large as a large goose egg, and very much the shape of one drawn out in length about five inches. It must have been the skimmed milk that caused the calfs death. We suppose we gave it too much, as it ate readily, with little trouble. They are generally so hard to learn to eat, and get so little into their stomachs at first, is, perhaps, the reason that such cases are not oftener heard of. The only other one of the kind I ever did hear of, happened in our town this winter, but we did not know of it soon enough to save ours.

It may be worth while to publish this in the *Farmer* as it may serve as a caution to others raising calves to be careful about commencing to feed with skimmed milk.

Horticultural Department.

State Horticultural Society.

RULES *adopted by the standing Fruit Committee of State Horticultural Society for their guidance in the examination of Fruits.*

Any persons having seedlings or doubtful varieties which they wish examined, are requested to forward them, carefully packed, and with charges prepaid, to any convenient member of the committee, who will give them an examination, and, whenever it can be conveniently done, will bring them before the committee.

The committee will recommend no seedling fruit for trial that does not rank "best," or otherwise possess some especial qualities that render it desirable.

The committee will employ the terms "good," "very good," and "best," to express the different grades of quality.

T. T. LYON, *Sec'y.*

Recollections of the Debates,

At the recent meeting of the State Horticultural Society on the lists of Apples reported by the standing Fruit Committee.

EDITOR FARMER, *Dear Sir* : — As there is no report of the horticultural discussions at Kalamazoo, I have endeavored to compile from memory, assisted only by the list of fruits, such portions of the debates as seemed to me most important. I trust that any apparent mistake may be held excusable from the circumstances of its production.

A LOOKER ON.

On taking up the Report of the Standing Fruit Committee, Mr. Hubbard, of Detroit, moved that we proceed to the discussion of the Winter fruits; and that the discussions be conducted with the varieties under consideration before us, in order to avoid all uncertainty as to the fruits intended. Adopted.

Mr. Lyon, of Plymouth, moved that the Society adopt the revised edition of Downing's Fruits and Fruit Trees of America, as their standard of nomenclature; which, after a slight discussion was adopted.

The list of Winter fruits recommended for general cultivation being under consideration,

The *Baldwin* came up, for adoption for all purposes, with the remark, by the committee, that it was a vigorous tree, but tender, and should be topgrafted.

Mr. Hubbard, of Detroit, took exceptions to the mode of propagation recommended by the committee, as unwarranted: had been unable to see any difference between trees topgrafted and those rootgrafted.

Mr. Hathaway, of Little Prairie Ronde, replied, objecting to rootgrafts generally, and, especially so with certain varieties.

Mr. Lyon, remarked that he had a large number of rootgrafted trees of this variety, all of which were more or less injured at the surface of the ground. He also had a larger number, topgrafted on hardy stocks; none of which were injured. He concluded by moving that the variety be passed for general cultivation, with the remark that it is tender in in some localities.

This motion having been rejected, it was resolved to pass over the variety without notice. After considerable farther discussion, and some remarks by Mr. Penniman, of Battle Creek, respecting its reputation at the east; also by the chairman, and others, respecting the propriety of neglecting so popular a fruit, and the allowance to be made for the unusual severity of the past two winters, this resolution was reconsidered, and the variety was recommended for general cultivation, without remark.

Belmont being under consideration, the President remarked, that it was a fruit of which there was but one opinion: that its flavor was adapted to all tastes: that it was a free and beautiful grower, and a good bearer. Passed for all purposes.

Cooper being taken up, appeared to be but little known. Mr. Lyon stated that it had been grown in his vicinity for nearly thirty years. A fine grower, of good habit, and a great bearer in alternate years. Fruit, large and beautiful, always fair. Its chief drawback, as a market fruit, being, that it ripens its fruit in succession; and, from its size, and the shortness of its stem, is apt to be blown off by high winds. Passed for market.

Domine was reported by the committee as a promising variety. The President remarked that it was an enormous bearer, the fruit being strung upon the branches like ropes of onions.

Mr. Lyon remarked, that it appeared inclined to push its new shoots only from the trimmed buds, and consequently, in order to produce a compact head, it would be well to "shorten in" the young wood. Reccommended for general cultivation for market.

Pomme de Neige, (Snow Apple, or Fameuse,) was objected to only from its small size on old heavily laden trees; while its great beauty, combined with its other good qualities, insure it a ready sale in the market. Recommended for all purposes.

Jonathan, being under consideration, was stated to be very similar in quality to Esopus Spitzenburg. Tree, hardy, a very slender grower, and a great bearer.

Lady Apple was stated by the President, and also by Mr. Penniman, to be in a great demand, and at high prices, in eastern cities, about the time of the holydays, on account of its diminutive size, and great beauty.

Mr. Lyon stated, that, with him, on a short trial, it appeared to be a great bearer, and the fruit very fair, and of even size. Passed for amateur purposes.

Green Newtown Pippin was recommended by the committee with the remark that it requires thorough cultivation and pruning, and, that its success was then uncertain.

The President had been acquainted with it, some years since, as a market fruit, in Southern Ohio, where he esteemed it eminently successful. Some queries having arisen respecting the Green and Yellow varieties of this fruit, specimens, shown by Mr. Lyon, being submitted to the process of "tasting," were unanimously pronounced the genuine "Green," and were stated by the President, to be fully equal, in appearance and quality, to those grown in Southern Ohio. The fact, however, seemed to be conceded that it is not uniformly successful. It was accordingly recomended for farther trial.

Winter Pippin, (a local fruit,) was recommended by the committee, but, on comparing notes, so many

varieties appeared to be known under this name that the association passed over it informally.

Red Canada, (Steel's Red Winter of Wayne Co.,) was reported by the committee as a market fruit, with the remark that it was without an equal as a profitable long keeper. It appeared to be but little cultivated in the western part of the State, and much surprise was expressed that the committee should recommend it so highly.

Mr. Lyon, being called upon, stated that this fruit was not successful at the east, but appeared to improve as we come westward. It had been largely cultiv ted in his vicinity, for nearly thirty years, under the erroneous name of "Steel's Red Winter," and only recently identified. At the present time, the demand for this variety, for orchard planting, was much in advance of the supply. In some cases, whole orchards, exclusively of this variety, were being planted for market purposes. He remarked, as to the causes of its popularity, that it was an enormous bearer, producing light and heavy crops on alternate years. The fruit of good size, always fair, very glossy and beautiful, and coming into market in May, and June, when prices are usually good, and fruit of good quality scarce. Passed.

Rambo was recommended by the committee as a fine late fall and winter fruit, but liable to overbear.

Mr. Hathaway had kept it well till late in the spring: found it a profitable variety for market. According to his experience, it should be kept open to the air. The President and others coincided with these remarks. Passed for all purposes.

English (Poughkeepsie) Russet being under consideration, was stated to be a very upright, vigorous grower, and an enormous bearer. Fruit, small, and of only third rate flavor; keeping through the year. Tree, tender; and inclined to overbear: on this account usually shortlived. Passed over.

Golden Russet was then taken up. Stated to be a rather upright grower, with quite long, slender, speckled shoots. Fruit, if kept till maturity in close boxes or barrels, of the finest quality Shrivels, and becomes worthless if left exposed to the air. Passed.

Roxbury Russet was reported with the remark that the tree was tender, an awkward, spreading grower, and should be topgrafted. After considerable discussion by Messrs. Wells, Hathaway, Johnson, Stanard, and others, disclosing quite a varied experience with this variety, Mr. Lyon gave his experience with it, as that upon which, to some extent, the remark accompanying the report was predicated. He had over one hundred trees of this variety, about twenty-five of which were rootgrafts, planted indiscriminately with the remainder, which were topgrafted on hardy stocks. Of the rootgrafts, all were more or less injured at the surface of the ground, and many were dead. The topgrafts had escaped entirely. Passed as a market fruit.

Stone Apple, a local fruit, presented by the committee for the purpose of eliciting information. Said to cook well, late in the season. Passed over informally.

Northern Spy seemed to be generally valued, but conceded to be slow in coming into bearing. The few that were acquainted with it, in bearing, spoke of it as likely to prove profitable. Passed as a mark fruit.

Wine, or 20 oz., was recommended by the committee as a large, fine cooking apple, for market; but such a diversity of opinion prevailed in the meeting, respecting the variety entitled to that name, that it was passed over without action.

Yellow Belflower, being under condsideration, was stated by the President, and others, to produce but indifferent fruit in the prairie soils of Kalamazoo. It was observed that here, as elsewhere, it appears to be most at home in sandy soils Passed.

The Society, having concluded the discussion of winter fruits, proceeded to take up the report of the committee on Summer and Autumn fruits.

American Summer Pearmain, although said by the books to be unprofitable, as a market fruit, was stated by Messrs. Hathaway and Lyon, with a limited experience, to be a good bearer. All acknowledged it to be of the highest quality, Passed as an amateur fruit.

Benonie was but little known. Mr. Lyon stated that it was considerably grown about Jackson, where it was much esteemed for the hardiness and vigor of the tree, and was considered one of the most profitable early market fruits. Passed for market.

Early Strawberry, after a slight discussion between Messrs. Hathaway, Lyon and others, respecting its alleged tenderness as a rootgraft, was passed as an amateur fruit.

Early Joe having been taken up, the President stated that he had tried the propagation of a few trees in the nursery, but could make nothing of them, and that, with him, the fruit, when produced, was of but little account.

Mr. Stanard, of Ionia county, was seldom able to get it high enough to overtop the snows of winter.

Mr. Lyon had no experience with it in the nursery, but, in the orchard, the trees had proved fair, rather upright growers, and good bearers of nearly medium size, and exceedingly beautiful fruit, of fair appearance, and excellent quality.

Mr. Hathaway remarked that, with him, the variety had grown much more freely from buds than from grafts.

Hawthornden was passed as an exceedingly beautiful, and productive cooking apple, for market.

Keswick Codlin was stated by Mr. Lyon, to be a less beautiful fruit than the above, but a better grower, equally prolific, and having the valuable quality of cooking well when half grown.

Maiden's Blush being under consideration, the President remarked that, with him it had proved a good, upright grower, and a good, even bearer, with the exceedingly beautiful fruit very evenly distributed over the branches. He esteemed it one of the most attractive and valuable fruits of its season.

Fall Pippin was represented by numerons specimens upon the tables of the Society, and quite a lengthened discussion, both formal and informal, was carried on among those present, respecting the correctness of the specimens. Without expressing an opinion of the correctness of the specimens, the variety was passed.

Red Astrachan, being under consideration, was stated to be a hardy, vigorous, upright grower, and a good bearer. Fruit, large, and exceedingly beautiful: said to become dry if kept long after maturity. The speakers generally considered it too acid for the dessert, although the President esteemed it for that purpose. Passed as a market fruit.

After concluding the discussion of the list of apples recommended for general cultivation, the association took up the list of promising varieties.

Carolina June being under consideration, Mr. Hathaway remarked that he had known it a number

of years; had found the trees vigorous and hardy, and the fruit usually of fair size, good flavor, and great beauty; but, for the last few years, more inclined to be imperfect. Considered it as worthy of farther trial.

After some remarks of a similar purport by other gentlemen, it was passed over informally.

Black Detroit, and *Red Detroit* were discussed at some length, but the specimens before the meeting were past their season, and as there was a difference of opinion respecting their identity, they were passed over.

Duchess of Oldenburg being under consideration, Mr. Lyon stated that the tree was vigorous, and exceedingly prolific, and the fruit large, fair, and beautiful. It had been recommended by the American Pomological Society, as first rate for cooking, and second rate for the dessert. Passed as promising well for market.

Hawley was but little known: Mr. Lyon had fruited it the past season; found it large, beautiful, and excellent. Passed as promising well for all purposes.

Minister was spoken of as a beautiful, productive, fair, but acid fruit, of doubtful value. Passed over.

Norton's Melon had only been tested by a few of those present. Those acquainted with it esteemed it very highly. Tree of very slender growth. Passed as promising well for amateur purposes.

Golden Sweet was discussed by the President, Messrs. Penniman, Hubbard, Lyon, and others, with regard, chiefly, to the identity of the variety under consideration. Passed as valuable for stock.

Tewksbury Blush was reported by the committee as a vigorous tree; fruit, valuable, (if at all,) for its long keeping. After examination of the quality of of specimens present, on motion of Mr. Hubbard, it was added to the rejected list.

The Rejected List was then taken up, in gross — The President remarked that one variety, included in this list, (the Romanite,) was much grown in the State, and was esteemed, by many, as a profitable fruit for late spring use.

Mr. Lyon stated that it is considerably disseminated in his vicinity, and usually brings a high price when no others are in the market, but that it can not be sold along side of Red Canada, Golden or Roxbury Russet, and that its flesh is always tough, dry, and poor in flavor. He remarked, however, that the tree was one of the hardiest with which he was acquainted; a very vigorous, upright grower, requiring little or no pruning to keep it in form. For these reasons, he had been led to employ root-grafts of this variety, as stocks on which to topgraft the more straggling or tender varieties.

After some remarks by others, the list was adopted in gross.

The Spiræa Callosa and other Choice Flowering Shrubs.

Dear Sir: — In looking through the file of your journal, I find in the Nov. No., p. 341, a notice of the Spiræa Callosa with an editorial note as follows, "We are not aware that this new and hardy shrub has been introduced into the U. S.," &c.

I therefore take the liberty of informing you and those of your readers who may feel an interest in ornamental plants, that it is in this country and has already been considerably disseminated.

It is now three years, and I am not sure but four, since we imported one hundred plants of it to begin with, and during this time it has been freely propagated. In regard to its merits I would say that it really is a charming shrub, deserving every word of praise that has been bestowed upon it.

As to its hardiness there is not a shadow of doubt, as it has stood in our ground in exposed situations, during the memorable winters of '55, '56 and '57, when vegetation was subjected to the severest trials we have ever had, or may have in this country. From what I have read in foreign journals of its culture in Europe, I am inclined to believe that it succeeds better here than there. Our warm and dry summers not only ripen its shoots better, and thus enable it to bloom with more vigor and profusion, but give greater depth and brilliancy to its color. With us it blooms from June to October, a quality which greatly augments its value. It is now so cheap (50c each) as to be within the reach of all, and as it is, like all the genus spiræa, of the easiest cultivation, there is no reason why it should not soon become one of the most popular flowering shrubs.

Before closing this note allow me to merely name two or three other shrubs of comparatively recent introduction which are fit companions for Spiræa Callosa.

1st. The New Double Flowering Spiræa Reevesi, which in habit of growth, foliage, &., is similar to the old Reevesi or Lanceolata, but with double flowers like Daisies, blooms in May in the garden and forces admirably in the green house in winter.

2d. The Deutzia Gracilis or Slender branched Deutzia, a low spreading or branching shrub, with slender shoots covered in the month of June with graceful spikes of pure white flowers. Very valuable too for forcing in the winter.

3d. The Forsythia Viridissima, or Deep Green Forsythia which is covered with its bright golden flowers in early spring before the leaves are out.

4th. The Wiegela rosea, or Rose Colored Wiegela and the Wiegela Amabilis or Beautiful Wiegela, both very elegant shrubs, the latter is yet rare, has larger foliage than the former and gives some flowers nearly all the season. Their season of flowering is in May or beginning of June.

These are comparatively new, perfectly hardy in the Northern States, and are among the finest small sized flowering shrubs in cultivation.

Respectfully yours, P. Barry.

Rochester, N. Y., Feb., 1858.

Cultivation of Cherries.

In transmitting my subscription to the *Farmer* I feel disposed to give a little of my experience in the cultivation of Cherries.

I believe there is a pretty general complaint that

cherries of the Heart and Bigarreau varieties on the Mazzard stocks after a few years, are affected with a bursting of the bark of the trunk, and sometimes of the larger limbs, owing mainly to rapid growth followed by cold winters. Now this difficulty can be avoided by budding or grafting on the common red cherry or Morello stock. I speak what I know from practical demonstration.

I have some dozen or more trees on Mazzard stocks, consisting of May Bigarreau, Early Purple Guigne, Black Tartarian, Elton, Yellow Spanish, Knights Early Black and several other choice varieties, all of which have been more or less affected with bursting of the bark, to the great injury of the trees. I have also about the same number budded and grafted at standard height on the common red or Morello stocks, none of which have been in the least injured in this way. The latter having produced more fruit, of quite as good quality and I think on the whole superior. The location and cultivation of each being similar.

The only objection that can be urged against this system is on the score of beauty, as regards the appearance of the tree. But when allowed to branch out, (or induced to do so by cutting back the first years growth after budding, if necessary,) near the insertion of the bud or graft, the difference in the growth of stock and scion is hardly perceptible, especially if the outer bark of the trunk be occasionally slit vertically on all sides giving a chance for expansion.

True, it may be we cannot obtain as rapid growth on the Morello as on the Mazzard stock, yet we get a more durable one, and the main object we have in view, the production of fine fruit, will be much more satisfactorily attained. B. J. H.

Adrian, Feb. 1858.

Standards vs. Rootgrafts.

Ed. Farmer, *Dear Sir* : — If yourself and your readers are not already tired of the subject, I will venture a reply to the article of Mr. Hathaway in your last issue. Although having only an incidental bearing upon the main question, I will venture a remark or two upon his assertion, that vegetable and animal life exist simply, or mainly, for the use of man.

In answer to this position I will venture the assertion, that nature, without human thought or labor, never produced a "cereal" grain, or a "Rhode Island Greening," of the kinds usually produced for the sustenance of the human family ; but that the development of the grain and fruit producing qualities, is mainly due to the combined mental and physical labor of man, developing the vigor of the fruit or grain producing quality, at the expense of its other qualities. In a state of nature the apple tree produces but worthless fruit, while its seeds are perfect and abundant, and the tree itself is hardy and long-lived. On the other hand, the Rhode Island Greening, as he remarks, produces few seeds, but an increased amount and quality of pulp. In speaking of the apple tree in a state of nature, I mean not such as we produce by sowing seeds indiscriminately. Such are all improved varieties which have stepped aside from the original wild type, and lost that fixity of character which was its unfailing characteristic in its natural state.

From these remarks we may perceive the force of the dogma alluded to in a previous article, that any improvement in the fruit producing quality, should, in some sense be considered as a disease, since it is at the expense of vigor in some other direction.

This dogma was alluded to with the supposition that Mr. H. had based upon this, or some similar idea, his assertion that "the finer the fruit the more tender the tree." If this be not the case, then we must conclude that it is based upon the "facts" he has promised us—a more stable basis, it must be acknowledged, if they are of the right stamp. In support of my position I have on my own grounds some hundreds of "facts," without a single demurer.

With regard to the alleged tenderness of the point of union between the stock and the graft, my position is, not that it is *necessarily tender, but that if any one point in the tree is more tender than another, it is that point.* In proof of this position I will observe, firstly, that if the top is more tender than the stock, the tenderness extends from the point of union upwards, and *vice versa*, therefore this point is more *frequently* tender than any other. Secondly I have had frequent occasion to remark, more or less with all varieties of fruit trees, but in a very marked degree with cherries, that, in the bursting of the bark, the first rupture is almost invariably directly across some point where a wound has healed, as is the case where the stock is cut off in a budding or grafting. It is doubtless true, however, that this tenderness of the cicatrix will constantly diminish with the age of the tree, and the consequent firmness of the wood and the bark above the wound. This tenderness of the cicatrix has a perfect parallel, and from the same cause, in the case of wounds inflicted upon men and animals.

Again, the roughness of the bark occasioned by the healing process, especially if near the ground, forms a convenient place for insects to deposit their eggs, and also for the injurious effects of moisture during the winter.

Mr. H. reiterates the statement that, with him, the greater share of the injured trees are rootgrafts. I reply, my experience is the same ! Indeed, he seems to forget the point at issue between us, which is, (if I understand it aright,) whether the alleged tenderness of rootgrafted trees is chargable upon the mode of propagation solely, or is inherent in the variety : and, as a consequence, what is the best mode of guarding against it.

And here I may be allowed to make a profession of my faith in the matter.

I believe that some cultivated varieties are more tender than others.

I believe that some seedlings are more tender than otherrs.

I believe that *some* seedlings are more tender than *some* improved vareities.

I believe that more than one cultivated variety can be pointed out, of such abundant vigor and hardiness, that when worked upon others, it will infuse its vigor into them to such an extent as to more than counteract any evil effects of "complication," and, that besides infusing its vigor downward into the root upon which it stands, it will transfuse its vigor upward through the weaker or tenderer variety worked upon it.

That this last article of my creed is generally believed, and acted upon, by horticulturists, I presume Mr. H. will not deny.

In our own country the Apricot and Nectarine are worked on plum stocks, to increase their hardiness and duration.

In France the peach is frequently worked on almond stocks, to adapt it to peculiar soils or climates.

There is, however, beyond a doubt, a difference, either in the hardiness of varieties, or in the severity of the climate, between the eastern and western portions of the state. In the eastern portion, I have never known young and vigorous apple trees to be injured in the top. Except in old or enfeebled trees, the injury has been always traceable to the base of the trunk. On the contrary, at the west we hear of injuries in the top, while the trunk escapes. The remedy I have proposed appears to be adapted to the former case, which appears to result from the freezing and thawing of the moisture at or near the surface. At the west, the different effect may perhaps be produced by the dry and searching winds, which often continue for a long time and at a low temperature, first freezing, and perhaps rupturing the overloaded sap vessels, forced into a late and rapid growth by the rich prairie soils, and afterwards evaporating them to almost dryness.

If such be the real cause, the remedy must be found in the use of such stocks or of such modes of culture, as shall produce the early ripening of the young wood, so that it may be relieved of its superabundant moisture before the closing in of winter. Failing in this I can see no remedy short of the absolute excision of all varieties that have not a cross of the salamander sufficient to enable them to withstand these vicissitudes. T. T. LYON.

Plymouth, Feb., 1858.

Observations on the Apple Worm.

Much as has been said and written upon the parasite called the apple worm, I yet suspect that their true ways and means have not been fully discovered. I am led to this conclusion from various facts which I have picked up during the last four or five years—of which the following are a few. In the month of September, 1855, I discovered upon the mid-cheek of a Golden Russett apple what appeared to be a recent puncture made with a bristle; on further examination I found many more punctured in a similar manner, some of quite recent date, and others that appeared to have been done a number of days previous; and when I carefully removed the skin about the punctures, I found apple worms, some of which were so small as to be scarcely discernable with the eye unaided, while others had made their way well nigh to the core and were of considerable size, I also at different times found apples of other varieties—Fall Pippin, Greening and Bellflower—punctured in a like manner. These discoveries were made during a spell of warm fine weather. This and other known habits of the insect caused me to suspect that this parasite was not confined to one generation or even two in a season but multiplied and diminished according to circumstance of season and climate. Now if they are a winged insect they are migratory. Do the whole miller species prey upon fruit, or but one subdivision of them? My opinion is that these parasites were occupants of Michigan before civilized man occupied it. When a series of seasons favored, they were many, but when the seasons were unfavorable they diminished, but as a race they do not become extinct. Being quite similar to other insects in general characteristics they are little dependent upon the favors or frowns of men. While a Cook may "entrap and slay his thousands," an adjoining forest and field, with their numerous fruits and flowers, may rear their millions. And yet I would not advise any to give up using means to prevent their havoc or to destroy them. These insects may be more local in their operations than might seem reasonable to some, and to this point I will relate what fell under my observation relative to another insect that I have noticed preying upon the shoots and smaller branches es of the hickory forest tree. This insect operates by stinging in the nit at the juncture of the foot stalk, the grub seems to follow the pith for a greater or less distance, when it performs the operation of a small circular saw, till all the wood is cut away to the bark, when it changes and makes a round smooth hole through the bark, and leaves. These operations seem to be done in June and early July, causing the tree to die generally the first season. The fine hickory plains of the southwest of Jackson county, have in many places been totally destroyed thus, within the last fifteen years. This corresponds to the time since the annual burning over of these plains ceased, by being settled and improved. I knew of one piece of forty acres, which was preserved untouched, while upon three sides nearly all the hickory perished during a few seasons. This I supposed to have result-

ed from the fact that this piece was burned each year (generally in May) to improve its pasturage. Are these insects winged and migratory like the "Apple Worm"? Was the egg or larva among the leaves or upon the surface of the ground so that the fires destroyed them, or were the effects of the fire and smoke left upon the trees offensive to them? And finally, may it not be reasonably supposed that the multiplicity of insects in our State is in part at least attributable to the suppression of those fires that once swept over these extensive plains?

It would seem very essential to know to what particular class these apple worms belong, and to this end, in order to more fully learn their ways and means, I would suggest to such as may wish to investigate the subject, to provide a glass jar, placing some fine earth in the bottom and some of the affected fruit upon that, then close with a lid finely perforated so as to admit air freely, and mark well the result. I have seen millers thickly infesting outbuildings during summer and autumn before apples were so infested, and I have seen them so numerous in a clover field (partially in bloom) as to equal the stems of grass, apparently. This latter was in the latter part of August 1856, they were of all sizes, but I believe of a pale drab or leaden color. C. ——

Something New for Bees.

The *Flore des Serres*, a periodical published under the editorial charge of Van Houtte, of Belgium, one of the most celebrated horticulturists in Europe gives the following account of a discovery connected with the feeding and keeping of bees which may prove of value. This periodical relates:

Two bee-masters in a village in the Department of the Var, in the south of France, were in the habit of wintering their hives in the forests of Mandelieu. When uncovering the hives the apiarians perceived about noon on the 4th of May, 1856, that their bees were out; and yet the hives were full, and of extraordinary weight for the time of year. Surprised at the circumstance, and wondering what the bees could be at, they remained on the watch until evening.—About 6 o'clock the bees began to return, loaded with an incredible quantity of the richest plunder; so heavy, indeed, were their burthens that the least experienced observer could not have failed to notice it. Astonished at such an event the bee-masters proceeded to examine the fields and mountains in the neighborhood, but in vain; they discovered nothing in the country round them at all different from preceding years. At last they crossed a field in which the oilcake resulting from the pressure of Sesamum seed was being prepared for putting into the ground with Potato sets, as is the custom in that country, where Sesamum cake is much valued as manure.

The cakes had been steeped in a pit of water till they were reduced to the state of liquid paste; for it is thus that cakes are used with most success at Mandelieu. "Oho!" said the farmer who was planting the potatoes, on seeing the apiarians, "You are come to see how we make bee-soup. Look there; every day for some time past we have been overrun with your swarms, and they feast famously; they take their fill I assure you." On returning to the same place next morning the mountaineers were convinced of the truth of what the farmer had said; for there were the bees in prodigious numbers buzzing about the tub, and feasting on the Sesamum cake which it contained.

The bee-masters from Mandelieu took the hint. They immediately placed near their hives some large tubs, filled with Sesamum cake dissolved in water to the consistence of pap. The bees wandered from home; the tubs were kept regularly filled with "soup," as the farmer called it, and the bees stayed at home. The food has since been given in winter with perfect success; only if the weather is frosty it is necessary to use warm water in order to keep the Sesamum cake soluble.

The *Flore des Serres*, from which we borrow this, assures us that the results have been astonishing, not only in a large increase of honey-comb, but in enabling the bees to multiply beyond all belief; nearly ten times the quantity being bred in consequence of the facility afforded of obtaining abundant and, as it would seem, excellent nourishment from this unexpected source.

This *Sesamum* is the Bene plant, or *Sesamum Orientale*, a plant which can be grown with great ease, but which matures more fully in more southern latitudes. It grows to the height of five or six feet, and produce, an abundance of oily seeds, from which is expressed an oil that in some parts of the East Indies is used as freely as butter is with us, or olive oil by the inhabitants of Southern Europe. The cake left after the expression of the oil is the article referred to in the above quotation. This cake is imported into Great Britain and France as a manure. But for the purposes of feeding bees, we presume that the seeds crushed and steeped in warm water would answer equally as well as the cake. The article is certainly worth a trial by those managing bees, and especially in cold seasons, when the insects find it difficult to gather food enough for their own consumption. The subject has already attracted considerable attention in England, amongst the bee-keepers.

Horticultural Notes.

☞ In the volume for last year there will be found complete instructions as to the making of hotbeds and the seed which should be sown in them.

☞ The present month is one in which the operation of pruning may be carried on to any extent that is deemed desirable.

☞ We call particular attention to the advertisement, of Mr. Adair who has got a selection of choice ornamental plants and shrubs of the kinds most suited to our climate, and also to the advertisement of Messrs. Hubbard & Davis, whose fruit and ornamental trees will bear inspection.

☞ Messrs. Ellwanger & Barry of Rochester, are offering opportunities to obtain choice selections of all the new and beautiful plants, which have recently been introduced. Read their advertisements.

☞ Those who are anxious to ornament should bear in mind that paint put on in the fall will last twice as long and be much better every way than if done in the spring.

A Rose Show.—A grand national Rose exhibition is to be held in London on the first of next July. Subscriptions are being raised by a committee at the head of which is Thomas Rivers, the celebrated Rose culturist. It will unquestionably be a grand affair, and excite great competition. It is open to all who choose to compete.

New Seeds.—A new melon is advertised in the English Catalogues, which is named "General Havelock." It is pronounced hardy, remarkably fine flavored and of good size, the fruit weighing from three to four pounds. A new variety of cucumber has also been grown, called "General Outram;" this is characterised as a free setter, a rapid grower, and free from ribs or shrivels, of a dark green color, and of even size from stem to point. It grows straight as a gun barrel, and is from twenty-four to thirty-eight inches in length. There are but two or three seeds in a fruit.

☞ Wm. Adair, has come come to the conclusion that the Deodar Cedar, the Cedar of Lebanon, Cryptomeria, Chili Pine, the English and Irish Yews, European Silver, Fir, and the Abies Pinsapo, are too tender for our climate, and will not withstand our winters.

☞ Edgar Sanders, of Chicago, in a communication to the Country Gentleman, recommends very highly the new verbena "Imperatrice Elizabeth." He says "it is quite unlike the ordinary verbena in foliage, and even in flower and in fact belongs to another type, that of *V. Pulchella*, while the other kinds are descendants of the old *Melindies* The foliage is elegantly laciniated, of a glossy dark green, and a remarkable compact creeping habit. The flowers are a bright violet purple, with pure white flakes down each side of the petal. It is finely adapted for small beds, vases, baskets, &c.

☞ The Horticulturist gives the following list of plants which will bloom in a cool conservatory from November to March:

Chrysanthemums of sorts.	Wallflowers.
Scarlet Geraniums.	Stocks.
Flower of the Day, geranium.	Cytisus.
Camelias.	Calceolarias.
Fuchsia dominiana, &c.	Tropoeolum, Canarieuse.
Mignonette, French.	Roses of sorts.
Poinsettia Pulcherrima.	Gesnera Zebrina.
Orange trees.	Primulas.
Salvia, Splendens, &c.	Pinks.
Balsamia, Jerdoniæ.	Epacises.
Daphne Indica.	Heaths.
Ageratums.	Epiphyllums of Cacti tribe.
Heliotropes.	Cyclamens.
Lilium tigrinum.	Ardisia crenata.

☞ The Lawton Blackberry is gaining in reputation and favor, and seems to be a variety well worthy of a trial.

☞ Some time ago we called attention to the fact that Professor Lindley had pronounced the Spirea Callosa the handsomest of June and July flowering shrubs. It will be seen that Messrs. Ellwanger & Barry, of the Mount Hope Nurseries, Rochester, have already procured it and have it for sale, as well as some other desirable flowering plants.

☞ The Connecticut Homestead notices a new potato, called Colebrooke Seedling, as promising to be a superior variety, shaped something like the Mercer, as good in quality, not hollow in the heart, and not liable to be affected by rot. Our cultivators, however, should bear in mind the Siberian potatoes of D. D. Tooker. For potatoes that give an idea of what this tuber ought to be when well grown it will be difficult to find their superiors. Of their productiveness, we have no knowledge.

☞ *Seeds.*—We again esteem it a pleasant duty to call attention to the advertisement of new flower seeds by the Messrs. Thorburn of New York. It will be noticed that their supply of these new and desirable species is not large, and that the sooner application is made the better.

The Household.

"She looketh well to the ways of her household, and eateth not the bread of idleness."—Proverbs.

EDITED BY MRS. L. B. ADAMS.

March.

BY MRS. L. B. ADAMS.

The march of the seasons through sunshine and rain,
Has brought the bleak March to our hearthstones again,
His winds piping shrill,
Over valley and hill,
Give a watchword of duty to all,
To each lip the word springs,
But most cherily rings
In the morn at the farmer's loud call,
March!

Come boys, to the barnyard, your cattle to feed,
And girls, of your cows and your poultry take heed;
Though the morning is chill
And the March winds blow shrill,
Come cheerfully forth at the call,
There is life on the wings
Of the gale as it sings
In the pride of its freedom to all,
March!

Come men, with your axes and sinews of strength,
The trees in yon fallow must me sure their length,
On the ground 'neath the hill
Where the wind whistles shrill
Ere the shadows of evening shall fall,
Let our sturdy strokes ring
A glad welcome to spring
Keeping time to her life-giving call,
March!

We'll see to our fences, our harrows and plows,
We'll give extra care to our lambkins and cows,
That when March winds are still,
And o'er valley and hill
The warm sunlight of April shall fall,
No hindrance they'll bring
To the labors of spring,
While I forth at the head of you all,
March!

We'll march in the furrows so deep and so true,
And plant the bright corn where the dark forest grew,
Our rich fallows we'll till,
And, as hopefully still
From our hands shall the golden grains fall,
Of the harvest we'll sing—
'Tis the promise of Spring
To all farmers who now heed her call,
March!

And thus through all seasons in sunshine and rain,
Till the bleak March comes round to our hearthstones again,
With a sturdy good will,
We will sow, reap and till,
And still mindful of life's coming fall,
We can joyfully sing,
When our ripe sheaves we bring
At the sound of our Maker's last call,
March!

Sewing Machines.

Since sewing machines have become the fashion of the day, the country is being flooded with them and their agents, the latter especially anxious to do all in their power for the benefit of suffering womankind and—their own pockets. Some of these machines, (mostly those of the cheap or low-priced

class) are quite worthless for practical purposes, as far as household sewing is concerned, not being reliable for either the strength or permanence of the stitch; some are valuable for certain kinds of work, and others may be readily adapted to almost every variety of sewing necessary in a family, and will be equally reliable, both for the strength and beauty of the stitch, in all.

The Grover & Baker machine, advertised on the first page of our cover, is among the high-priced patents, and is one which an ingenious or experienced operator may make very useful in many kinds of family sewing. It makes a firm, strong seam, which cannot easily be ripped without the aid of knife or scissors, the stitch on the upper side is very beautiful, neatly and firmly set into the cloth, and, combined with the double chain beneath, makes a seam at once firm and elastic. The double stitch on the under side, making a sort of ridge, will be an objection in some kinds of work, in others it may be made ornamental. By using silk and lengthening the stitch, a very pretty embroidery may be worked around flannel skirts, baby blankets, aprons, &c. Collars, shirt bosoms, wristbands, and indeed, almost all kinds of close stitching can be very neatly done, with a little care in adjusting the tension and the length of the stitch.

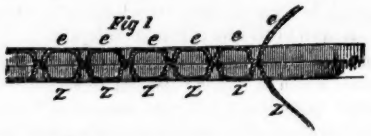
The machinery is a little complicated, and the movement rather heavy, but w en once learned it is easy to manage, and will save eyesight, time and money to a family where much work is to be done.

As it is a matter of great curiosity to many to know *how* a machine sews, and in what manner the stitches are made, we give in the present number a chapter of explanations and illustrations of the process.

We wish our readers distinctly to understand that in writing what we have about sewing machines, we have not been writing "paid puffs" with a view of magnifying their good qualities for the benefit of agents and salesmen. We are writing and working directly for the benefit of womankind, and, thereby, incidentally for mankind, and will have no hand in advocating what will not advance their interests by securing comfort to the household.

For the purpose of giving a definite idea of the several kinds of stitches, we take from the American Agriculturist the following illustrated article on this subject:

We commence with the stitch made by the Wheeler and Wilson machine, as that appears to be the simplest and most easily illustrated. Fig. 1 exhibits two pieces of cloth, *c*, placed together and partly sewed. A little examination will show that the upper thread *e, e, e*, is crossed in the centre of the cloth by the lower thread *z, z, z*—in other words, the two threads cross each other and are thus locked together. This is essentially the 'lock-stitch' invented, and patented in 1846, by Mr. Howe, (to whom we are indebted for the first practical application of machinery to common sewing; and are



glad that, unlike most inventors, he is reaping a rich reward, for though he makes no machines himself, yet the principal manufacturers of the successful sewing machines all pay him a license fee on each machine sold. So those ladies who buy them will have the satisfaction of knowing that some of the purchase money at least goes to the inventor himself.)

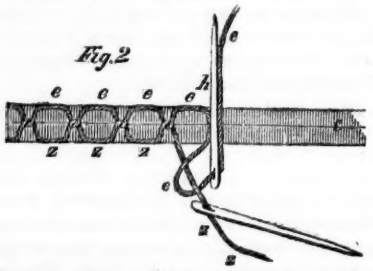
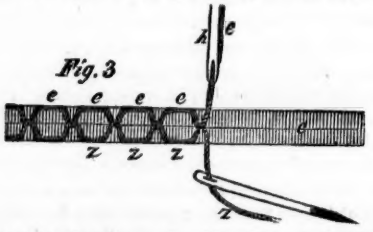


Fig. 2. is designed to illustrate how this stitch might be made by hand.

Here the needle *h*, carrying the upper thread *e*, is thrust down through the cloth (the eye foremost) and partly drawn up again, thus forming a small loop of the upper thread. Through the loop thus made, a needle carrying the lower thread *z*, is passed. (We are apparently sewing with the blunt end of the needle, but in practice we may suppose the eye of the needle to be near the point, which is the case in all sewing machine needles.)

If we now withdraw the upper needle it will carry the lower thread into the centre of the fabric, forming a complete lock-stitch, as seen in Fig. 3.

By continuing this process a series of stitches will be made; and since the upper thread enters and returns upward through the single needle hole, there will be upon the surface of the cloth a single line of thread exactly resembling ordinary 'back stitching."

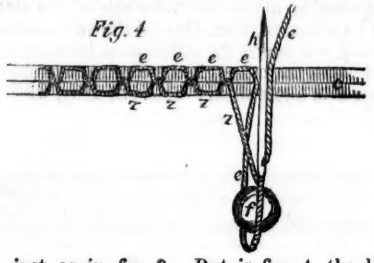


We see also that the underside of the cloth will present precisely the same appearance as the upper.

In the machine invented by Mr. Howe, the upper needle was moved by machinery, and the lower thread was carried through the loop by means of a shuttle having within it a bobbin (or spool) of thread. This arrangement is still used in heavy machines for leather and other thick fabrics, and in some of the "family machines." The Wheeler & Wilson machine is an improvement upon the shuttle, in several respects. It makes precisely the same stitch, but

with less complicated machinery and less waste of power. We will try to explain its working to the readers of the American Agriculturist. Referring to fig. 4, we see the needle and upper thread, *e*, thrust

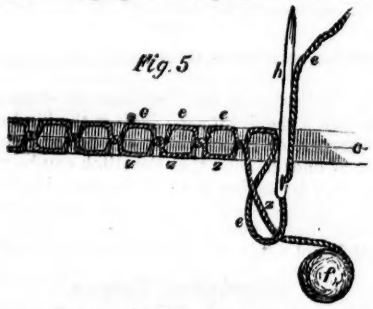
Fig. 4



down, just as in fig. 2. But in fig. 4, the lower thread, *z*, is wound upon a bobbin, or spool, *f*. To illustrate the working, we may suppose this bobbin passed into the loop between the needle *h*, and the upper thread *e*. In fig. 5, it is shown carried through. Here we see that, on withdrawing the needle *h*, the upper thread will draw the lower one into the cloth, producing a lock-stitch in the centre of the fabric, precisely as in fig 3.

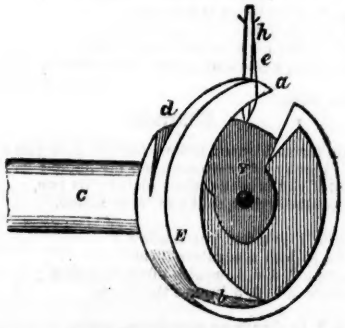
By examining fig. 4 and fig. 5, it will be seen that

Fig. 5



the same effect would have been produced, had the bobbin or spool, *f*, remained stationary, and the loop been carried around it—down the right side and up the left, around the lower thread z. This end is, in effect, accomplished in the machine.

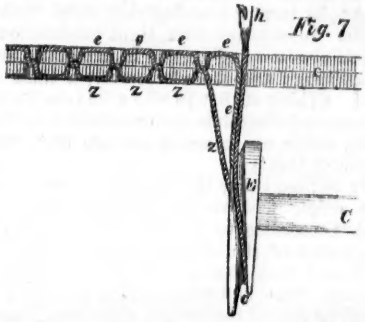
Fig. 6



In fig. 6 we have a rotary hook, *E*, upon the end of the shaft *C*. Inside of this hook, in the concavity *Y*, is placed the bobbin *F* (as seen in fig. 8.) The needle *h*, coming down through the cloth, and being partly withdrawn, leaves a loop at *e*. The point of the revolving hook passes into the loop at *a*, opens it, and carries it around, spreading it as it moves forward, so as to throw it around the bobbin or spool within the hollow hook. The bobbin *F* (fig. 8) has no axis passing through it, but is held in the concavity *Y* by a ring (not represented) placed before it, so that it plays freely and allows a loop of thread to pass around on both sides, as around the small ball of thread in figs. 4 and 5.

Fig. 7 gives a side view of the thread carried part way around. It will be noted that this wheel upon

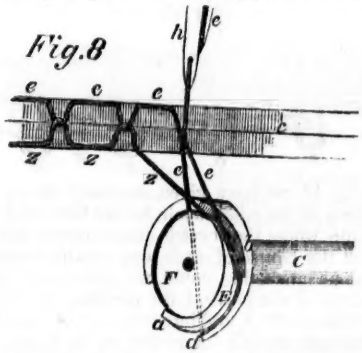
Fig. 7



which the hook *a* (fig. 6) is placed, is bevelled at *E* in fig. 7, so as to throw the thread off from its edge after it has been partly wound around it. The object of this is to throw one part of the loop around the bobbin in order to embrace the lower thread.

The operation can be better understood in fig. 8, by tracing the position of the upper thread *e*, *e*, and

Fig. 8



of the lower thread *z*, *z*. We observe that the loop having been first formed on the right side of the lower thread *z*, one part of it falls behind the bobbin *F*, back of the dotted line,) while the other branch of it is caught by the hook, carried around, to be thrown off on the other side of the bobbin, by means of the bevel or half screw at *b*.

Fig. 9

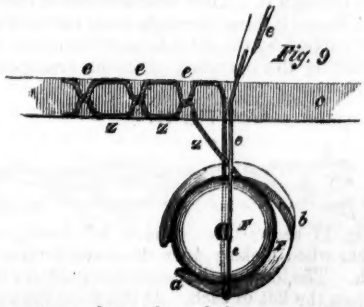


Fig. 9 gives a front view of the same. We here see the upper thread *e*, *e*, bent, or looped, completely around the lower thread *z*. A little further turn-

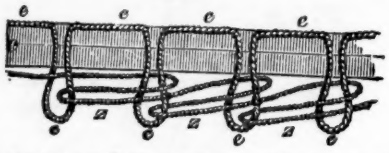
ing of the circular hook will throw the thread off from it, when, by the simultaneous tightening of the thread above, the lower thread embraced by it will be drawn into the cloth and form a lock in the centre.

It is surprising to see with what rapidity these successive stitches can be made. A quick motion is communicated to the needle, circular hook, bobbin, &c., by turning a multiplying wheel, with a foot treadle. In ordinary work, eight hundred to a thousand stitches are easily made in one minute, and this, all day long; and there is scarcely a limit to the speed. (Think of that, ye who would see your wives, mothers, and daughters, continue bent over the hand needle, which can scarcely execute fifty stitches a minute, at best!)

We omitted to say that the cloth is moved forward by a simple feed motion, making long or short stitches according to the will of the operator. An examination of the stitches will show that there is less thread used than is required in ordinary back-stitching, since in back-stitching there is a double thread on part of the surface, while here, there is but one continuous thread.

We intended to further show, not only the kind of stitches, but also the mode of making them in the other varieties of machines, but we have not been able to complete the necessary drawings. We will, however, describe briefly the appearance of the stitches in one or two of them.

Fig. 10.



In fig. 10, we have given, as nearly as we could, the form of the stitch made by the Grover & Baker machine, where the threads are purposely left loose, so that the course of each one can be traced. (It would be interesting, could we present at this time drawings of the parts of the machine, by which the beautiful windings and interwindings of the threads are brought about.) A glance at the figure shows the course of the upper thread *e, e, e,* and the lower one *z, z, z,* the latter being smaller than the former.

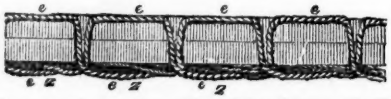
Suppose we begin at the left hand, and bend down the upper thread through the cloth, to make a loop *e*. Next bend a loop of *z* through the upright loop, and carry this last horizontal loop forward, so that the second loop through the cloth can be brought down through it. Then hold the second loop of the lower thread is thrust through, it and carried forward, to be entered by the third loop of the upper thread. Continuing this operation gives the arrangement in fig. 10.

Fig. 11.

Fig. 11 shows these stitches left *loosely*, as they appear when looking upon the *under* surface of the cloth. The loop, or horse-shoe, terminates abruptly upon the left of each. At this point the two ends pierce the cloth, as seen in fig. 10 above.

In the next illustration (fig. 12) we have the appearance of the cloth after being sewed, with the stitches drawn up by the machine in actual work. The cuts of course show the stitches magnified. When they are made short and the threads are properly tightened, we can only see a small continuous cord running along the under side of the cloth. It will be observed, then, that of the two machines described, one makes the stitches on both sides of the cloth alike, the other gives a continuous stitch on the upper side like ordinary back-stitching, with a small

Fig. 12.



cord upon the under side. The Grover & Baker stitch can be unravelled, with a little care in getting hold of the two threads used. We do not see how the Wheeler & Wilson stitch can be unraveled at all. But in practice, it is next to impossible to rip a seam of half an inch sewed by either machine, even if the cloth be cut up into sections of that length.

Fig. 13.

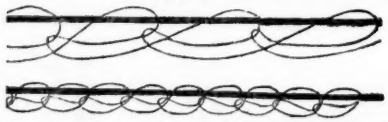


Fig. 13 illustrates the Tambour or chain stitch, made with a single thread. This is the kind used in the cheaper, or rather the lower priced machines. It will at once be seen that the stitch can be readily unravelled by taking hold of the thread at the left. There may be cases where sewing in this manner may be useful, but a glance at the stitch itself will show that it is not adapted to general sewing in a family.

Geographical Enigma.

I am composed of thirtaen letters.
My 1, 4, 10, 6, 7, is a chain of Mountains in South America.
My 3, 11, 1, 4, 10, is a river in Africa.
My 9, 5, 6, 7, is a sea in Asia.
My 1, 5, 2, 4, 13, is a range of Mountains in North America.
My 5, 12, 8, 2, is a city in Europe.
My 8, 6, 7, 9, 10, is a Lake in Sweden.
My 2, 10, 11, 4, is a city in Pennsylvania.
My 7, 11, 8, 6, is a city in South America.
My 1, 12, 6, is a city in Hindostan.
My 1, 4, 13, 12, 9, is a city in Europe.
My 9, 13, 3, is a cape in the United States.
My whole was a General in the Revolutionary War.

ANSON R. SMART.

Clayton, Mich.

Charade.

I am formed by ten letters, and I'll give you a cue,
Whereby you may soon tell my name;
And if you mistake, then plainly 'tis you,
Not the writer, that can be to blame.

5, 6, 7, 1, is a tax, you'll allow;
10, 9, doth a negative form,
From a 2, 3, 6, 1, wealth often doth flow;
Many a 7, 6, 5, braves the storm.

5, 6, 7, is always an unwelcome guest,
My 1, 2, 2, 6, the reverse;
At 8, 10, 10, the tired traveller doth rest
And frequently lightens his purse,

8, 9, 10, is a play I greatly admire;
My 4, 8, 10, often gives pain;
My whole is removal—you no more need desire
To render my meaning quite plain.

W. W. C.

Agricultural College, Lansing.

MICHIGAN FARMER.

ROBERT F. JOHNSTONE, EDITOR.

DETROIT, MARCH, 1858.

Premiums for 1858.

☞ The state of business throughout the country, the slow returns from agents, and the representations of friends from nearly all quarters that a longer time than to the first of April must be allowed them to complete their clubs, have induced us to extend the time until the *first of May* for this year. Meanwhile, we would request the good offices of all who take an interest in sustaining an agricultural periodical in this State, to give us the benefit of their influence, and would suggest the approaching town meetings as an appropriate time to make an effort to extend the circulation of the *Farmer* amongst those who do not now take it.

☞ Our correspondents must be patient. Whilst we are pleased to receive the many excellent suggestions, and valuable communications, which evince the interest the writers take in the farm and the *Farmer*, our space obliges us to make selections, so as to publish those most appropriate to the season. Those which do not appear the present month, are only postponed. Meanwhile give us facts. We ourselves frequently give way to our correspondents. This month our notes on Kalamazoo County farms are published which should have appeared two months ago.

The State Agricultural Society.

Last month we gave a brief review of the financial affairs of the State Society, as being one of the principal subjects which was under consideration at the late meeting of the Executive Committee. The other subjects of importance were the next State Fair, and the premium list.

The place of holding the fair was not decided upon, but left with the business committee, which is E. N. Wilcox of Detroit, H. G. Wells of Kalamazoo, C. W. Green of Farmington, and the Secretary J. P. C. Emmons, Esq. This committee in deciding where the fair shall be held, have to consider the subject from more than one point. In the first place there is a strong impression prevalent throughout the state that there is no point out of Detroit where the visitors at a State Fair can be accommodated. Next, to every point in the interior except Jackson, there is but one main line of communication. Third, there are strong doubts as to the probabilities of any other point except Detroit furnishing a population which could be depended upon for a revenue. Fourth, it is feared that in the present financial condition of the society, a removal of the fair from the commercial centre of the state would be risking its most important interests. There are some other objections, but these are the principal, and should the citizens of any locality determine to make propositions, they will know on what points they must satisfy the business committee. One of the questions which will have most weight, will be, "will it pay all expenses as surely as if held at Detroit?" No matter what offers may be made, this will be the main question. We believe, that were the Society in funds, or out of debt, it would be considered good policy to carry the fair to some western point, and that this will be done with the design of promoting the objects for which the Society is instituted, at some early season, we cannot doubt. Of one thing those who are interested in the next fair may be certain, and that is that the next fair, if held at Detroit, will not be held on the Hamtramck race course. That matter is decided upon.

The premium list has undergone a few alterations, to which we shall refer when we publish it, which will be at an early day. The judges in the several departments have been selected with great care, and it is hoped that every one who may find out in time that he cannot attend, will notify the Secretary previous to the fair, so that his substitute may be notified of his appointment in time to fill the vacancy.

Notes and Queries.

☞ Owing to some changes which we were obliged to make, so that the printing might be done in a more satisfactory style, our issue for this month has been delayed a few days.

☞ The Canadian Agriculturist, one of the neatest printed agricultural periodicals, furnishes to its subscribers a copy of the very elaborate prize essay on the Wheat Fly, written by Professor Hinds of Toronto College. It is a valuable treatise on a most important subject.

Sugar from the Sorghum.—Mr. J. Chambers of Macon, Lenawee county, has sent us a sample of sugar made by him from the Sorghum. The sugar was sharply grained, but was not dry. This, so far as we know, is the nearest approach to sugar making in this state. Mr. Chambers assigns as the reason of his success "that the cane was grown on a warm gravelly ridge, and got better and more fully ripened than any in the place. He followed the common method used in making maple sugar, the syrup being cleansed with milk and eggs, and boiled down to the thickness of mush, when it was taken from the fire and suffered to cool. After standing for eight or ten days, it then grained, and was put in a woolen sack to drain, but did not get any drier than the sample I send you." Mr. C. thinks that the cause of the sugar not being perfect is owing to unripeness of the plant. While there is reason to believe this is the cause in some cases, we think in his own, that the sugar was not submitted to a sufficiently high degree of heat. His sugar answers the description of that which Mr. Lovering got when he stopped at 230 degrees, when he should have raised the temperature of the syrup to 238 degrees.

Sale of a Black Hawk Stallion.—We learn Mr. T. F. Gerls of Troy, Oakland county, has purchased for $1,500, a four year old stallion, bred from Washtenaw Chief, by S. T. Turner of Ypsilanti. In notifying us of the sale of this horse, Mr. Turner says: "This colt was bred by me from a Messenger mare, and bids fair to equal his noted

sire for speed and stock, having already proved himself in both ways in this county."

☞ It will be seen by the advertisement that Washtenaw Chief, will be kept by Mr. Turner for the Spring season only at Ypsilanti, and those who intend to raise stock from him should make use of the opportunity. He is unquestionably one of the most valuable horses of his kind, and possesses the Morgan character in an eminent degree.

☞ J. K. and our article on mares, remain over until next month.

Pigs.—Mr. O. W. Hopkins of this village killed, a few days ago, two pigs seven months and fourteen days old, one of which weighed 270 lbs and the other 298 pounds. Who has done better this year? C. F. MALLORY.

Romeo Feb. 10.

Wyandot Corn.—D. Wilson, of Noble Center, writes in relation to the Wyandot Corn:—"I tried some of it three years ago, but the seasons are not long enough for it to mature. If they were, it must be great corn to yield. One kernel is sufficient for a hill, as at least four suckers will spring from the main stalk, all of which will universally attain the same size and height. Mine grew at least twelve feet high, and set for a great many ears, but never got along far enough to show any kernels."

Mr. Linus Cone writes:—"In a late issue in speaking of 'A Miraculous Corn' you say 'the question is, will this corn ripen as far north as this.' The 'Wyandot Prolific Corn' is by no means a new variety, it was introduced throughout the West some years ago, but as it would not mature, seed became scarce and it required a few years to get a new supply. But, judging from the price asked seed is plentiful now and all can procure it who desire to test its wonderful qualities. As for myself I have no desire to try the stuff a second time until our Weather Prophet (Mr. Ryan) assures us that we are to have at least six months good corn weather. Then and not till then set me down as an applicant for a parcel of the seed.

☞ J. P. asks, "Can any of your readers inform the farmers of this section where half a bushel to a bushel of the Chinese Sugar Cane of reliable quality can be procured?"—The Messrs. Penfield of this city will supply it, or Mr. Blois of Jonesville, who appears to have taken some pains to get a good variety, can supply a large quantity. A pound ought to plant an acre, and in the present stage of experience, we think that few farmers are prepared to risk more. Those who have money to invest, outside of the regular business of the farm of course, can try as much more as they choose.

Queries.—SIR: Permit me to ask a few simple queries through the *Farmer*. First, will weeds of any description grow as a natural production of the earth, without seed or root; that is, start from nothing and grow. It is affirmed by many that they will; for they say that you may go into the woods a number of miles from any settlement and clear and burn off a piece of land, and weeds of every description will spring up. Others say that ground oaks will come forth and grow from nothing, without seed or root. The same persons affirm that wheat will turn to chess, and some of them affirm that they have seen wheat and chess growing together. To cap the climax it has been said that musquitoes will grow from small particles of mud J. P.

In answer to the first notion, for it is only a notion assumed from appearances, and not from facts, we will state that it is recorded in the history of the New York Canals that earth which had been brought from many feet below the surface, grew varieties and species of plants which had not previously been known in the vicinity where the diggings were being carried on. It was never supposed that these plants grew from nothing. The seed had been lying dormant, and heat light and air did their work in giving them vitality. It is undoubtedly so with the weeds or plants which our correspondent speaks of; their seeds remain dormant in the earth, because they are not submitted to the conditions they need to permit their development as plants; but burn and clear off a piece of woods which has hitherto had the mastery of the land, the conditions which will give life to seeds that have lain dormant probably for several generations of men are obtained, and plants spring up which seem strange to the eyes of those who have never studied the operations of nature.

So with the ground oaks: Some forty years ago, a great fire occurred in the district of Miramichi, New Brunswick, which swept off the timber from a very large region of country and made it seem like a desert for a long while. In a few years however the land was again covered with a rank growth of young wood, but of a totally different character, maples, oaks, beech and other hard woods growing where pines, hemlocks and spruce were the chief growth before the fire. This change ought not to seem extraordinary, for it is probably only a natural rotation which has been going on for vast periods ever since the creation. The seed is in earth but does not always have the conditions which afford it vitality.

As for the musquitoes, whoever thinks as our correspondent writes should learn a little of the history of insects,—the mere rudiments—and they would never utter such a preposterous idea. As for the chess, that matter is now in the hands of a sagacious committee in the State of New York, a gentleman there having offered a premium of one hundred dollars to any one who would grow chess from wheat to the satisfaction of a committee to be appointed by the New York State Agricultural Society. We believe there is a chess grower now busy manipulating a lot of wheat with the design of winning the prize. His experiment last year was not satisfactory, for it was shown that his chess grew from chess seed, and not from wheat.

Drain Tile.—The season has been very favorable for the drawing of tile to make drains, and it may be well to call attention to the manufactory of Mr. John Daines, who has a large quantity of the very best quality on hand, and which he will not only sell at reasonable prices, but also guarantee as sound and well burnt. Brick makers and those who work in clay would do well to give attention to the advertisement of his machine. There is a daily increasing inquiry relative to materials for drainage, and there is nothing as yet known equal to tiles, for which there will be a great demand, as soon as their effects upon lands are appreciated.

☞ Our readers must bear in mind that the University Library lacks Volumes one and three of the *Michigan Farmer*, and the Librarian will pay a liberal price for them, on delivery by mail or otherwise at Ann Arbor.

☞ The New York State Fair for 1858 is to be held at Syracuse, on the 5th, 6th, 7th and 8th days of October.

☞ The Ohio State Fair is to be held at Sandusdy, on the last week of September.

☞ The trustees of the New York Agricultural College expect to have a center and wing of their buildings completed so that about 100 students will be received next winter. The trustees appear to act with great deliberation and care.

☞ The *Cincinnatus* is the title of a very excellent monthly, neatly printed, and published at the Farmers College near Cincinnati, Ohio. The editor is F. G. Carey.

The leading article in the February number sustains very strongly Mr. Morril's bill to donate lands to agricultural colleges.

☞ A one horse harvester and mower has been patented by a Mr. Gumaer. The cutting apparatus consists of scythes, arranged to perform the work on the plan of the grain cradle. The patentee claims that it can do the same amount of work with one horse for which other machines require four. The invention is not yet in market.

The Markets and the Prospects. Wool—Beef.

The scarcity of money, and a settled determination not to buy, seems to pervade all classes of community in this State. We learn that money is very plenty in the eastern cities, but it is accumulated only in the hands of capitalists and in the vaults of the banks. It has no circulation for the reason that all kinds of business is reduced to the narrowest limits, and of course there is little demand for money to use. Hence the money market is called easy, but it is because business is the scarce article.

No State has suffered more from the stagnation of business than Michigan. Where, heretofore she has had from a million to two millions of eastern currency sent into her to purchase her agricultural productions, which has been circulated throughout the interior from November till May, she has not had a dollar; and besides, the shutting up of the banks and the failure of Mr. Lyell used up nearly or quite a million more. Mr. Lyell alone must have taken out of this State full $200,000 of funds which actually belonged and were calculated to be used in this State in its daily business. The complete stop which was put to business at the east by the panic among the banks last fall, as a matter of course, hindered many of those who had heretofore been regular customers, from sending on their orders to purchase, hence the millers received no orders, and were not only unable to sell what they had already ground, but could not venture on the purchase of wheat. There were no buyers, and all who would have sold, could find no one to sell it to. They therefore were obliged to let their grain remain in their granaries and go without money. Hence money is scarce in Michigan at the present time, though she is to-day richer than she has ever been.

With the opening of navigation, there will undoubtedly be a change, and there will unquestionably be an exchange of a large portion of our stored up produce for eastern money, not at high prices however, but at rates probably a little better than are to be had to-day, but then the demand will be good, and all can sell who desire to do so.

Amongst the important products of the State, none will receive more attention than the wool crop. We have little doubt but that the effects of the new tariff law will be felt more injuriously this year than even before on this article. The shutting off of many manufactories during the winter, has kept a large proportion of wool from being worked up, and leaves a large amount of last years clip on hand. This fact, and the state of trade, will tend to make the price of wool low at the coming in of the clip. But it must be borne in mind that the imports of manufactured goods have been lighter the past winter than for years, and that with the return of spring, there will be a lively resumption of trade, which will create a demand that our own manufacturers will hasten to supply. This will create a demand for wool, and we expect to see wool at more advanced prices in July or August, than in May or June, and we hope our wool growers will bear this in mind. The foreign wool market is not too well supplied. The London Farmer's Magazine in its review of the wool trade for the last year, observes: "American Wool even surpasses many of the foreign wools for its felting properties, and for its suitability for making light on heavy broadcloth. Samples have been obtained from American flocks which contained 2,522 serrations to the inch, while the finest Saxony wools from Hungary will only contain about 2,400 serrations." The same authority says, "from a careful review of the whole trade, we find that the consumption of wool has greatly increased in every quarter, and that the growth has not kept pace with it." Last year Australia sent out 8000 bales less, than she did in 1856, and at the great wool sales of Great Britain, the prices obtained are reported as "very satisfactory." Southdown and Leicester wools in that country are just now quoted at 27 to 30 cents per lb. while first quality Saxon and German wools bring 80 to 108 cents per lb.

In our own markets wool is depressed, not from a want of demand, but because government policy favors the introduction of foreign manufactured wool at such rates as shuts up our own manufactories, and there is no foreign demand, whilst Great Britain and France consume the cotton of the United States, their own population and that of their extensive colonies supplies them with wool. Both countries willingly sell us their manufactured wool, but do not want our raw material at prices that would pay us for raising it. The rates may be quoted as follows:

	Boston	*New York.*
American Saxon,	44 a 46	45 a 46
Full blood Merino,	38 a 40	36 a 40
Half & ¾ blood,	32 a 36	32 a 36
Quarter blood,	30 a 32	28 a 32
Common grades,	24 a 28	24 a 30

So far as we can note the Beef market seems to give but little promise for the coming month, if any encouragement to drovers to advance in their rates. At Albany we note that western cattle brought but 4¼ to 5 cents live weight to take to Boston. Good cattle bring at the present time 5½ to 6 cents per pound, live weight, in New York. But this leaves but little margin to the buyer who pays here 3¾ to 4 cents, and really prime cattle are worth that and should not be sold for less. Our price current will show the price of articles at this city on the 1st of March.

The Markets.

BREADSTUFFS AND GRAIN.		SEEDS, PLASTER, SALT, &c.	
Flour, bbl	$3,75 a 5 00	Clover per bush,	$4,00 a 5,50
Cornmeal, 100 lbs	1,00 a 0.00	Timothy,	2,50 a 3,00
Buckwheat, 100 lbs	1,00 a 0.00	Red top,	0.00 a 2,00
Wheat, bush	0.78 a 0,84	Blue grass,	1 25 a 3,00
Corn, bush	0.40 a 0,4[illegible]	Millet, 1.50 Hungarian grass $5	
Oats, bush	0 30 a 0,32	Sandusky plaster, bbl, 1,25 a ——	
Barley, per 100 lbs	1,00 a 1,12	Grand River,	1,50 a ——
BEEF, MUTTON, &c.		N Y Plaster,	1,13 a ——
Beef on foot	$2.50 a 3,25	Sandusky water lime, 1,50 a ——	
Beef dressed	4,50 a 5,50	N Y do	1,31 a ——
Sheep, dressed per lb	0.3½ a 0.05	Salt fine bbl,	2.00 a ——
Sheep on foot,	2,50 a 3,50	do coarse,	2,25 a ——
Hogs pr lb 6c, pr 100	5,00 a 5,50	MISCELLANEOUS.	
Turkeys	1,00 a 1,25	Apples per bush	0.40a 0.60
Chickens, pair	0,25 a 37½	White fish, half bbl,	4,00 a 4,50
Geese	37½ a 0,50	White beans per bush,	1.00 a 1,25
Eggs per doz	10 a 12	Sheep pelts,	0,65 a .75
Butter, per lb fresh	12 a 14	Hay, timothy, ton,	8,00 a10.00
do firkin	10 a 12	Common,	6,00 a 8,00
Cheese per lb	9 a 11	Honey	20 a
		Potatoes	0.30 a0,40

FLOWER SEEDS!

J. M. THORBURN & CO., have just published their CATALOGUE OF FLOWER SEEDS for 1858 with practical directions for the culture, containing over **1000 VARIETIES** and many of them quite new and rare, among which are the following gems:

Acroclinium roseum, new Rhodanthe like flower, per packet 25 cts.

Alonsoa Warczewiczii, bright crimson, per pkt, 25c.

Linum grandiflorum Kermesinum, beautiful crimson Flax, per packet 25 cts.

Linum Lewisii Variegata, splendid variegated, 25c

Phlox Drummondii Alba, do *Leopoldina Napoleon*, do *Queen Victoria & Oculata*, all magnificent, per packet 10c each.

Portulacca Caryaphylloides, new Carnation striped, 10c per packet.

Asters, incomparabilis, seven distinct fine German sorts, 10c per packet.

Stocks, grandiflora &c. six beautiful German sorts, 10c per packet.

Leptosiphon aureus and lutus, both new, 10c per pkt

Tropœolum minus Coccineus, hardy dwarf crimson, 10c per packet.

Ipomœa, tricolor, nova, new, beautiful, striped and hardy, 25c per packet.

Whitlavia grandiflora, beautiful blue hardy annual, 10c per packet.

Datura Meteloides, new hardy annual, 25c per pkt.

Sabbatia Campestris, new green-house annual, do.

We have but a limited supply of the above seeds and orders will be filled in rotation, on receipt of order covering the amount we send the above, postage paid, as also the following,

COLLECTIONS OF

100	Varieties of	Annual, Biennial and Perennials, for	.....	$4 00
50	"	do do do	.....	2 00
25	"	Annuals	.....	1 00
10	"	do	.....	50
20	"	New and Rare Annuals	.....	2 00
20	"	Choice Green House Seeds	.....	2 50
40	"	do do do	.....	2 50
20	"	American Seeds for European Culture,	..	2 00

ALSO:

Choice Assortments for Rockwork,	.....	.....	$1 00
do do	of Aquatics,	.....	6 00
do do	" Ornamental Grasses,	.....	1 00
do do	" Imported German Asters and stocks from	.....	75 to 1 50

We can still supply small quantities of

DANIEL O'ROURKE & SANGSTER No. 1. PEAS, each at 40cts. per quart.

NAPOLEON & EUGENIE, each at 75cts. per quart.

HARRISON'S GLORY & PERFECTION, 50cts per qt. each

FAIRBEARD'S CHAMPION OF ENGLAND, 30 per quart.

RED, WHITE and YELLOW ONION, from $1.50 to [$2.50 per lb.

HUBBARD SQUASH, 25cts. per oz.

LONG ORANGE CARROT, $1.00 per lb.

AFRICAN IMPHEE, true, $1.00 per lb.

SORGHUM OR CHINESE SUGAR CANE, 25cts per lb.

HEMLOCK TREE SEED, (clean), 75cts per oz.

WEYMOUTH PINE, (clean seed), $3.00 per lb.

NORWAY SPRUCE, $1.50 per lb.

EUROPEAN SILVER FIR, $1.50 per lb.

DECIDUOUS CYPRESS, 50 cts per quart.

J. M. THORBURN & CO
15 John-st., New York.

☞ Catalogues will be mailed to applicants enclosing a postage stamp. Please say whether a Flower or Vegetable Seed Catalogue is wanted. mar2t

PREMIUM SHORTHORNS.

FOR SALE.

The subscriber offers for sale, at prices corresponding with the times, ten first class bull calves and about twenty heifers and cows,

At my farm at Lebanon, Ohio.

Many of these are premium animals and none of them would appear badly in a ring. R. G. CORWIN.

RARE EVERGREEN TREES, Of California, &c.

WE HAVE the pleasure of offering a moderate stock of the following rare and desirable trees of California, Oregon, &c. All are Seedlings, grown in pots, and in perfect health and vigor. Can be forwarded any distance with the balls unbroken.

WASHINGTONIA, (Sequoia Wellingtonia, &c.) The famous "big tree" of California—strong bushy plants from 8 to 12 inches—this proves hardy here.

CUPRESSUS LAWSONIANA, 8 to 10 tenlinches, one of the most elegant of this genus yet discovered.

LIBOCEDRUS DECURRENS, of Torrey, (Thuya gigantea,) six inches.

THUYA MACROCARPA, 8 to 15 inches.
" ARTICULATA, 10 to 12 "

ABIES GRANDIS, 1 year Seedlings, well ripened, and will bear carriage.

PINUS BENTHAMIANA, 2 year Seedlings.
" LAMBERTIANA, 2 " "
" TUBERCULATA, 2 " "
" JEFFREYI, 2 " "
" MONTICOLA, 2 " "
" SABINIANA, 2 " " 6 to 8 inches.

For complete priced lists, we refer to our Catalogue No. 2, which will be sent gratis to all who apply and enclose one stamp.

ELLWANGER & BARRY,
Mount Hope Nurseries, Rochester, N. Y.

TO FRUIT GROWERS.—SPRING OF 1858.

IN ADDITION to our general stock of Fruit Trees, we solicit the attention of Planters to the following articles in particular, the stock of which is extensive, and of the finest descriptions:

PEARS ON QUINCE, *Dwarfs and Pyramids*, 2 to 3 years' growth. Trees of bearing size can be supplied of a few sorts.

CHERRIES ON MAHALEB, *Dwarfs and Pyramids*, very strong and well formed, all the best sorts in cultivation.

FOREIGN GRAPES for Vineries—strong, 2 years old plants, in pots, from eyes, all the popular varieties.

STRAWBERRIES, upwards of 40 varieties, including McAvoy's Superior, Longworth's Prolific, Hooker's Seedling, Genesee, Jenny Lind, Scott's Seedling, &c; also the finest French and English varieties, including *Trollope's Victoria*, and *Triomphe de Gand*, two superb, hardy and prolific varieties.

RASPBERRIES—*Brinckle's Orange*, the hardiest and best light colored variety known; also, *Merville de 4 Saisons* and *Belle de Fontenay*, the two best autumnal sorts, superb large fruits and prolific.

All these fruits have been propagated and grown, with the most scrupulous regard for accuracy, and may be relied upon. Early orders are solicited. ELLWANGER & BARRY,
mar1t Mount Hope Nurseries, Rochester, N. Y.

A. O MOORE.

AGRICULTURAL BOOK PUBLISHER.
130 FULTON ST. NEW YORK,

New Works Just Published.

WARDER'S HEDGE MANUAL.

A complete treatise on Hedges, Evergreens, and all plants suitable for American Hedging, especially the Maclura, or Osage Orange—the only successful system of pruning—manipulation and management—fully illustrated with cuts of implements and processes, to which is added a treatise on

EVERGREENS—their different varieties, their propagation, transplanting and culture in the United States. By Jno. A. Warder, M. D., Ed. of Western Hort. Review and Pres. of the Cincinnati Hort. Society,

1. VOL. 12mo. PRICE One Dollar.

FIELD'S PEAR CULTURE.

A Treatise on the Propagation and Cultivation of the Pear in America—a full catalogue and description of the different varieties—their adaptation to Dwarfs and Standards—the best modes of pruning with directions for ripening and preserving the fruit; numerous engravings, carefully prepared, exhibit both the erroneous and correct methods of treatment. By. Thos. W. Field.

1 VOL. 12mo. PRICE 75 CENTS.

FISH CULTURE.

A Treatise on the Artificial Propagation of Fish, with the description and habits of the kinds most suitable for pisciculture, also the most successful modes of Angling for the fishes therein described. By Theodatus Garlick M. D., Vice Pres. of Cleveland Academy of Nat. Science.

1 VOL. 8vo. PRICE one Dollar.

FLINT ON GRASSES.

A Practical Treatise on Grasses and Forage plants, with more than one Hundred Illustrations of grasses and implements. The editor of the American Agriculturist says: "This is the best treatise of the kind we have seen on this important subject. We advise our readers to get this book and study it thoroughly, as we are now doing." By Charles L. Flint, A. M., Sec., of the Mass. State Board of Agriculture.

1 VOL. 8vo. PRICE $1 25.

All the above works will be sent post-paid on receipt of price.

Address, A. O. MOORE,
Agricultural Book Publisher,
feb2t 240 Fulton St. New York.